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- NEWS 2 "Ask CAS" for self-help around the clock
- NEWS 3 SEP 09 ACD predicted properties enhanced in REGISTRY/ZREGISTRY
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- NEWS 6 OCT 13 New CAS Information Use Policies Effective October 17, 2005
- NEWS 7 OCT 17 STN(R) AnaVist(TM), Version 1.01, allows the export/download of CAPplus documents for use in third-party analysis and visualization tools
- NEWS 8 OCT 27 Free KWIC format extended in full-text databases
- NEWS 9 OCT 27 DIOGENES content streamlined
- NEWS 10 OCT 27 EPFULL enhanced with additional content
- NEWS 11 NOV 14 CA/CAPplus - Expanded coverage of German academic research
- NEWS 12 NOV 30 REGISTRY/ZREGISTRY on STN(R) enhanced with experimental spectral property data
- NEWS 13 DEC 05 CASREACT(R) - Over 10 million reactions available
- NEWS 14 DEC 14 2006 MeSH terms loaded in MEDLINE/LMEDLINE
- NEWS 15 DEC 14 2006 MeSH terms loaded for MEDLINE file segment of TOXCENTER
- NEWS 16 DEC 14 CA/CAPplus to be enhanced with updated IPC codes
- NEWS 17 DEC 16 MARPATprev will be removed from STN on December 31, 2005
- NEWS 18 DEC 21 IPC search and display fields enhanced in CA/CAPplus with the IPC reform
- NEWS 19 DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/USPAT2
- NEWS EXPRESS DECEMBER 02 CURRENT VERSION FOR WINDOWS IS V8.01, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 02 DECEMBER 2005. V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT <http://download.cas.org/express/v8.0-Discover/>
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|                      | ENTRY      | SESSION |
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DICTIONARY FILE UPDATES: 28 DEC 2005 HIGHEST RN 870751-96-5

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*****
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L1 STRUCTURE UPLOADED

=>  
Uploading c:\program files\stnexp\queries\09890711variablemax.str

L2 STRUCTURE UPLOADED

=>  
Uploading c:\program files\stnexp\queries\09890711variablepara.str

L3 STRUCTURE UPLOADED

=> s l1 sss full  
FULL SEARCH INITIATED 15:34:01 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 778745 TO ITERATE

100.0% PROCESSED 778745 ITERATIONS 4645 ANSWERS  
SEARCH TIME: 00.00.09

L4 4645 SEA SSS FUL L1

=> s l2 sss full  
FULL SEARCH INITIATED 15:34:15 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 64368 TO ITERATE

100.0% PROCESSED 64368 ITERATIONS 819 ANSWERS  
SEARCH TIME: 00.00.01

L5 819 SEA SSS FUL L2

=> s l3 sss full  
FULL SEARCH INITIATED 15:34:21 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 17057 TO ITERATE

100.0% PROCESSED 17057 ITERATIONS  
SEARCH TIME: 00.00.01

271 ANSWERS

L6 271 SEA SSS FUL L3

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

483.56

483.77

FILE 'CAPLUS' ENTERED AT 15:34:29 ON 29 DEC 2005

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FILE COVERS 1907 - 29 Dec 2005 VOL 144 ISS 1

FILE LAST UPDATED: 28 Dec 2005 (20051228/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

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L7 69 L6

=> s (optical or laser or information) and l7

855856 OPTICAL

19 OPTICALS

855864 OPTICAL

(OPTICAL OR OPTICALS)

509679 LASER

158891 LASERS

522808 LASER

(LASER OR LASERS)

392597 INFORMATION

2988 INFORMATIONS

394989 INFORMATION

(INFORMATION OR INFORMATIONS)

L8 12 (OPTICAL OR LASER OR INFORMATION) AND L7

=> d all 1-12

L8 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:864668 CAPLUS

DN 143:86153

ED Entered STN: 19 Oct 2004

TI Enhancement of Resonant Bleaching of J-aggregates upon Lengthening of an Exciting Radiation

AU Markov, R. V.; Plekhanov, A. I.; Ivanova, Z. M.; Orlova, N. A.;

Shelkovnikov, V. V.; Ivanov, A. A.; Alfimov, M. V.

CS Institute of Automatics and Electrometry, Siberian Division, Russian Academy of Sciences, Novosibirsk, 630090, Russia

SO Journal of Experimental and Theoretical Physics (Translation of Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki) (2004), 99(3), 480-486

CODEN: JTPHES; ISSN: 1063-7761

PB MAIK Nauka/Interperiodica Publishing

DT Journal

LA English

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

AB Thin films of J-aggregates of a new amphiphilic thiocarbocyanine dye of the benthiazole series are prepd. and the nonlinear \*\*\*optical\*\*\* response of mol. J-aggregates is studied for femto- and nano-second exciting radiation pulses. The nonlinear \*\*\*optical\*\*\* response of J-aggregates exhibits substantial enhancement upon an increase in the pulse duration, which cannot be described by the satn. effect in the model of a two-level system. This effect is considered using a three-level model taking into account the formation of self-trapped exciton states in mol. J-aggregates.

ST resonant bleaching J aggregate thiocarbocyanine dye exciting radiation; nonlinear \*\*\*optical\*\*\* response J aggregate exciting pulse duration; self trapped exciton formation J aggregate exciting radiation

IT Cyanine dyes  
Fluorescence  
J-aggregates  
Nonlinear \*\*\*optical\*\*\* absorption  
Photochemical bleaching  
UV and visible spectra  
(enhancement of resonant bleaching of J-aggregates of amphiphilic thiocarbocyanine dye upon lengthening of exciting radiation pulse duration)

IT Self-trapped exciton  
(enhancement of resonant bleaching of J-aggregates of amphiphilic thiocarbocyanine dye upon lengthening of exciting radiation pulse duration in relation to formation of)

IT \*\*\*Laser\*\*\* radiation  
(pulsed; enhancement of resonant bleaching of J-aggregates of amphiphilic thiocarbocyanine dye upon lengthening of exciting radiation pulse duration)

IT \*\*\*790527-79-6\*\*\*  
RL: PRP (Properties)  
(enhancement of resonant bleaching of J-aggregates of amphiphilic thiocarbocyanine dye upon lengthening of exciting radiation pulse duration)

RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Allen, L; Optical Resonance and Two-Level Atoms 1978
- (3) Avdeeva, V; Kvantovaya Elektron (Moscow) 2003, V33, P539 CAPLUS
- (4) Bogdanov, V; JETP Lett 1991, V53, P105
- (5) Bogdanov, V; Pis'ma Zh Eksp Teor Fiz 1991, V53, P100 CAPLUS
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- (30) Rashba, E; Excitons 1985
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- (32) Sheik-Bahae, M; Opt Lett 1989, V14, P955 CAPLUS
- (33) Spano, F; Phys Rev A 1989, V40, P5783 CAPLUS
- (34) Sundstrom, V; J Chem Phys 1988, V89, P2754



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 (37) Yu, V; JETP 1995, V80, P460  
 (38) Yu, V; JETP Lett 1993, V58, P393  
 (39) Yu, V; Pis'ma Zh Eksp Teor Fiz 1993, V58, P358  
 (40) Yu, V; Zh Eksp Teor Fiz 1995, V107, P812  
 (41) Zhuravlev, F; JETP Lett 1992, V56, P260  
 (42) Zhuravlev, F; Pis'ma Zh Eksp Teor Fiz 1992, V56, P264

L8 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:563395 CAPLUS  
 DN 141:114138  
 ED Entered STN: 14 Jul 2004  
 TI Manufacturing bis-styryl dye for a high density \*\*\*optical\*\*\*  
 recording medium  
 IN Lee, Ming-chia; Liao, Wen-yih; Huang, Chien-liang; Yan, Chuen-fuw; Jeng,  
 Tzuan-ren; Hsieh, Ching-yu; Wang, Shin-shin; Tsai, Hui-ping; Lai,  
 Chii-chang; Ma, Jie-hwa; Yang, Jong-lieh  
 PA Industrial Technology Research Institute, Taiwan  
 SO U.S., 12 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC ICM B32B003-02  
 INCL 428064100; 428064400; 428064800; 430270140  
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.       | KIND | DATE     | APPLICATION NO.  | DATE     |
|------|------------------|------|----------|------------------|----------|
| PI   | US 6761952       | B1   | 20040713 | US 2003-457979   | 20030609 |
|      | TW 593561        | B    | 20040621 | TW 2003-92113056 | 20030514 |
|      | DE 10328369      | A1   | 20041209 | DE 2003-10328369 | 20030624 |
|      | JP 2004339460    | A2   | 20041202 | JP 2003-273540   | 20030711 |
| PRAI | TW 2003-92113056 | A    | 20030514 |                  |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|---------------|-------|---|
| US 6761952    | ICM   | B32B003-02  |
|               | INCL  | 428064100; 428064400; 428064800; 430270140  |
|               | IPCI  | B32B0003-02 [ICM,7]   |
|               | NCL   | 428/064.100; 428/064.400; 428/064.800; 430/270.140  |
|               | ECLA  | C09B023/14B; G11B007/247  |
| TW 593561     | IPCI  | C09B0047-04 [ICM,7]   |
| DE 10328369   | IPCI  | C09B0023-14 [ICM,7]; C09B0007-08 [ICS,7]  |
|               | ECLA  | C09B023/14B; G11B007/247  |
| JP 2004339460 | IPCI  | C09B0023-00 [ICM,7]; B41M0005-26 [ICS,7]; G11B0007-24 [ICS,7]; G11B0007-26 [ICS,7]  |
|               | FTERM | 2H111/EA03; 2H111/EA12; 2H111/EA22; 2H111/EA25;<br>2H111/EA32; 2H111/FA01; 2H111/FA12; 2H111/FB42;<br>4H056/CA03; 4H056/CA05; 4H056/CB06; 4H056/CC02;<br>4H056/CE02; 4H056/FA06; 5D029/JA04; 5D029/RA03;<br>5D121/AA01; 5D121/AA05; 5D121/AA07; 5D121/DD01;<br>5D121/EE01; 5D121/EE21; 5D121/FF01 |

OS MARPAT 141:114138  
 GI

/ Structure 1 in file .gra /

AB This invention provides complex dyes for a high-d. \*\*\*optical\*\*\* disk recording medium having the following formula I (Y = oxygen atom, sulfate atom, carbon atom with substitutes (C-R5) or nitrogen atom with substitutes (N-R6); R1 = C1-18 alkyl group, ether group, p-alkyl benzyl group; R2, R3, R5, R6, R7 can be same or different groups; and X = halogen atom, ClO4-, BF4-, PF6-, SbF6-, TCNQ-, TCNE-, naphthalenesulfonic acid or organometallic complex). The bis-styryl dyes whose spectra max. absorption in visible light range of wavelength of 300-800 nm can be used as a high d. \*\*\*optical\*\*\* disk recording medium.

ST manufg styryl dye high density \*\*\*optical\*\*\* recording disk medium  
IT Dyes  
\*\*\*Optical\*\*\* disks  
\*\*\*Optical\*\*\* recording materials  
(manufg. bis-styryl dye for high d. \*\*\*optical\*\*\* recording medium)  
IT 628-21-7 720665-87-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(manufg. bis-styryl dye for high d. \*\*\*optical\*\*\* recording medium)  
IT 52535-51-0P 720665-85-0P \*\*\*720665-86-1P\*\*\*  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(manufg. bis-styryl dye for high d. \*\*\*optical\*\*\* recording medium)  
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE  
(1) Kanno; US 6103331 A 2000  
(2) Wang; US 20030202458 A1 2003 CAPLUS  
L8 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2002:332278 CAPLUS  
DN 136:356383  
ED Entered STN: 03 May 2002  
TI Azo complex-based additive for improving lightfastness of styryl dyes in  
\*\*\*optical\*\*\* recording media  
IN Kasada, Chiaki; Aizawa, Yasushi; Kawata, Toshio; Yasui, Shigeo  
PA Kabushiki Kaisha Hayashibara Seibutsu Kagaku Kenkyujo, Japan  
SO PCT Int. Appl., 42 pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese  
IC ICM C09B067-00  
ICS B41M005-26; G11B007-24  
CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
Sensitizers)  
Section cross-reference(s): 74  
FAN.CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
-----  
PI WO 2002034841 A1 20020502 WO 2001-JP9250 20011022  
W: KR, US  
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,  
PT, SE, TR  
JP 2002201373 A2 20020719 JP 2001-126672 20010424  
PRAI JP 2000-328344 A 20001027  
JP 2001-126672 A 20010424  
CLASS  
PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES  
-----  
WO 2002034841 ICM C09B067-00  
ICS B41M005-26; G11B007-24  
IPCI C09B0067-00 [ICM,7]; B41M0005-26 [ICS,7]; G11B0007-24  
[ICS,7]  
ECLA C09B067/00M5; C09B067/00P11; G11B007/244  
JP 2002201373 IPCI C09B0067-00 [ICM,7]; B41M0005-26 [ICS,7]; C09B0023-00  
[ICS,7]; C09B0045-14 [ICS,7]; C09B0045-20 [ICS,7];  
C09B0045-22 [ICS,7]; C09K0015-32 [ICS,7]; G11B0007-24  
[ICS,7]  
OS MARPAT 136:356383  
GI

/ Structure 2 in file .gra /

AB Title azo-type organometallic complex, having .gtoreq.1 azo compd.-metal  
atom bonding, is used as an improver of light resistance for styryl dyes  
in a light-absorbing compn. for \*\*\*optical\*\*\* recording media, without  
distorting the absorption properties of the styryl dyes. Thus, a thin  
film was prepd. from a 2,2,3,3-tetrafluoro-1-propanol soln. contg. I and  
II, showing the max. \*\*\*optical\*\*\* absorption at 600 nm.  
ST azo complex styryl dye absorber lightfastness \*\*\*optical\*\*\* recording

medium

IT \*\*\*Optical\*\*\* films  
(absorbing; prepd. from styryl dye and azo complex)

IT Transition metal complexes  
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(azo; for improving lightfastness of styryl dye in \*\*\*optical\*\*\*  
recording medium)

IT Light-resistant materials  
(in \*\*\*optical\*\*\* recording medium)

IT \*\*\*Optical\*\*\* recording materials  
(styryl dye-based light-absorbing compn. contg. azo complex for)

IT Dyes  
(styryl; in light-absorbing compn. contg. azo complex for  
\*\*\*optical\*\*\* recording medium)

IT Azo compounds  
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(transition metal complexes; for improving lightfastness of styryl dye  
in \*\*\*optical\*\*\* recording medium)

IT 76-37-9, 2,2,3,3-Tetrafluoro-1-propanol  
RL: NUU (Other use, unclassified); USES (Uses)  
(as solvent in prepn. of thin film of styryl dye-based \*\*\*optical\*\*\*  
absorber)

IT 33929-99-6 \*\*\*343340-38-5\*\*\* 416857-43-7 416857-44-8 416857-45-9  
416857-46-0  
RL: PRP (Properties); TEM (Technical or engineered material use); USES  
(Uses)  
(contg. azo complex in light-absorbing compn. for \*\*\*optical\*\*\*  
recording medium)

IT 330442-57-4 419581-80-9 419581-82-1 419581-84-3 419581-86-5  
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)  
(for improving lightfastness of styryl dye in \*\*\*optical\*\*\*  
recording medium)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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CAPLUS
- (2) Kabushiki Kaisha Hayashibara Seibutsu Kagaku Kenkyujo; EP 1130063 A1 2001  
CAPLUS
- (3) Mitsubishi Kasei Kogyo K K; JP 6381165 A 1988
- (4) Mitsui Toatsu Chemicals Inc; US 5618868 A 1994 CAPLUS
- (5) Mitsui Toatsu Chemicals Inc; EP 621317 A1 1994 CAPLUS
- (6) Mitsui Toatsu Chemicals Inc; JP 73172 A 1994

L8 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:417080 CAPLUS

DN 135:34362

ED Entered STN: 08 Jun 2001

TI Styryl dyes for light absorbers or \*\*\*optical\*\*\* recording media

IN Kasada, Chiaki; Kawata, Toshio; Yano, Kentaro; Yasui, Shigeo

PA Kabushiki Kaisha Hayashibara Seibutsu Kagaku Kenkyujo, Japan

SO PCT Int. Appl., 57 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C09B023-00

ICS G11B007-24; B41M005-26

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
Sensitizers)

Section cross-reference(s): 74

FAN.CNT 1

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | WO 2001040382   | A1   | 20010607 | WO 2000-JP8298  | 20001124 |
|      | W: JP, KR, US   |      |          |                 |          |
|      | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,<br>PT, SE, TR |      |          |                 |          |
|      | EP 1149873  | A1   | 20011031 | EP 2000-977919  | 20001124 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, FI      |      |          |                 |          |
|      | US 2005240019   | A1   | 20051027 | US 2005-102756  | 20050411 |
| PRAI | JP 1999-343211  | A    | 19991202 |                 |          |
|      | WO 2000-JP8298  | W    | 20001124 |                 |          |

## CLASS

| PATENT NO.    | CLASS    | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|----------|--|
| WO 2001040382 | ICM      | C09B023-00   |
|               | ICS      | G11B007-24; B41M005-26   |
|               | IPCI     | C09B0023-00 [ICM,7]; G11B0007-24 [ICS,7]; B41M0005-26 [ICS,7]                      |
|               | ECLA     | C09B023/14H; G11B007/247   |
| EP 1149873    | IPCI     | C09B0023-00 [ICM,6]; G11B0007-24 [ICS,6]; B41M0005-26 [ICS,6]                      |
|               | ECLA     | C09B023/14H; G11B007/247   |
| US 2005240019 | IPCI     | C07F0001-02 [ICM,7]; C07D0417-02 [ICS,7]; C07D0413-02 [ICS,7]; C07D0043-02 [ICS,7] |
|               | NCL      | 546/002.000  |
| OS            | CASREACT | 135:34362; MARPAT 135:34362  |
| GI            |          |  |

/ Structure 3 in file .gra /

AB Title \*\*\*laser\*\*\* -sensitive dyes, having a high absorption at .ltoreq.400 nm, have a structure as [Q1C(R):CHQ2]X-n (R = H, aliph. hydrocarbyl, ether, acyl, halogen, cyano; Q1 = N-contg., O- and N-contg., or S- and N-contg. heterocyclic group; Q2 = arom. or heterocyclic group; X = counter anion; n = no. of X- for elec. charge balance). Reacting 2,3,4-trimethylthiazolium iodide and 4-cyanobenzaldehyde in the presence of HOAc and Et3N at 80.degree. for 1 h, washing with EtOH, and recrystg. gave I with m.p. of 261-263.degree..

ST styryl dye light absorber; \*\*\*optical\*\*\* recording medium styryl dye; methylene quaternary ammonium salt reaction aldehyde styryl dye

IT Quaternary ammonium compounds, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(active Me or methylene group-contg.; manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for \*\*\*optical\*\*\* recording media)

IT Absorbents  
(light; manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for \*\*\*optical\*\*\* recording media)

IT Condensation reaction  
Cyanine dyes  
\*\*\*Optical\*\*\* recording materials  
(manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for \*\*\*optical\*\*\* recording media)

IT Aldehydes, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for \*\*\*optical\*\*\* recording media)

IT 6285-95-6P 13206-45-6P 26485-06-3P \*\*\*343340-38-5P\*\*\*  
\*\*\*343340-40-9P\*\*\*  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for \*\*\*optical\*\*\* recording media)

IT 112377-16-9 343340-41-0 343340-42-1 343340-44-3  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for \*\*\*optical\*\*\* recording media)

IT 74-88-4, Methyl iodide, reactions 99-61-6, 3-Nitrobenzaldehyde 105-07-7, 4-Cyanobenzaldehyde 555-16-8, 4-Nitrobenzaldehyde, reactions 876-87-9, 1,2-Dimethylquinolinium iodide 1121-60-4, 2-Formylpyridine 5787-82-6, 2,3,4-Trimethylthiazolium iodide 24402-88-8, 1,3-Diethyl-2-methyl-5,6-dichlorobenzimidazolium tosylate 61224-35-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for \*\*\*optical\*\*\* recording media)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE  
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- (2) Canon Kabushiki Kaisha; JP 427959 B2
- (3) Canon Kabushiki Kaisha; US 4766047 A CAPLUS
- (4) Canon Kabushiki Kaisha; GB 2149930 A 1985 CAPLUS
- (5) Casio Computer Co Ltd; JP 06134291 A 1994 CAPLUS
- (6) Eastman Kodak Company; US 4577024 A CAPLUS
- (7) Eastman Kodak Company; JP 5817164 A
- (8) Eastman Kodak Company; EP 68876 A1 1983
- (9) Fuji Photo Film Co Ltd; JP 10324065 A 1998 CAPLUS
- (10) Gakkou Houjin Tokyo Denki University; JP 5615485 A 1981

L8 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2000:833423 CAPLUS  
 DN 134:11521  
 ED Entered STN: 29 Nov 2000  
 TI Color liquid crystal recording media containing photochromic substances  
 and their fast switching  
 IN Ikeda, Tomiki; Aisawa, Masao; Fujisawa, Sen  
 PA Dainippon Ink and Chemicals, Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C09K019-52  
 ICS C09K009-02; C09K019-36  
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 Section cross-reference(s): 75

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
|      | -----          | ---- | -----    | -----           | -----    |
| PI   | JP 2000328064  | A2   | 20001128 | JP 1999-138484  | 19990519 |
| PRAI | JP 1999-138484 |      | 19990519 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES                            |
|---------------|-------|---|
| -----         | ----  | -----   |
| JP 2000328064 | ICM   | C09K019-52  |
|               | ICS   | C09K009-02; C09K019-36  |
|               | IPCI  | C09K0019-52 [ICM,7]; C09K0009-02 [ICS,7]; C09K0019-36 [ICS,7] |

AB The media include cholesteric liq. crystals and photochromic substances  
 (preferably azobenzene or spiropyran derivs.) between two transparent  
 substrates which are equipped with alignment films. The media optically  
 switched by phase transition of the liq. crystals induced by isomerization  
 of the photochromic substances or by the change of spiral pitches. The  
 media are rewritable.

ST liq crystal recording medium fast switchable; photochromic azobenzene  
 contg liq crystal recording; spiropyran photoisomerizable contg liq  
 crystal recording

IT Liquid crystals  
 (cholesteric; optically-switchable color liq. crystal recording media  
 contg. photochromic substances)

IT \*\*\*Optical\*\*\* switching  
 Photochromic materials  
 (optically-switchable color liq. crystal recording media contg.  
 photochromic substances)

IT Liquid crystals  
 (photochromic; optically-switchable color liq. crystal recording media  
 contg. photochromic substances)

IT Isomerization  
 (photoisomerization, of photochromic substances; optically-switchable  
 color liq. crystal recording media contg. photochromic substances)

IT Spiro compounds  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES  
 (Uses)  
 (pyrans, derivs.; optically-switchable color liq. crystal recording  
 media contg. photochromic substances)

IT \*\*\*Optical\*\*\* recording materials  
 (rewritable; optically-switchable color liq. crystal recording media  
 contg. photochromic substances)

IT Heterocyclic compounds  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES  
 (Uses)

(spiropyrans, derivs.; optically-switchable color liq. crystal recording media contg. photochromic substances)

IT 87321-20-8, S 811  
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
 (chiral dopant; optically-switchable color liq. crystal recording media contg. photochromic substances)

IT 103-33-3D, Azobenzene, derivs. 143067-45-2, E 48 (liquid crystal)  
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
 (optically-switchable color liq. crystal recording media contg. photochromic substances)

IT 153483-47-7  
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
 (photochromic liq. crystal; optically-switchable color liq. crystal recording media contg. photochromic substances)

IT \*\*\*307504-26-3\*\*\*  
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
 (photochromic substances; optically-switchable color liq. crystal recording media contg. photochromic substances)

L8 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:833419 CAPLUS

DN 133:367725

ED Entered STN: 29 Nov 2000

TI Liquid crystal \*\*\*optical\*\*\* devices and \*\*\*optical\*\*\* switch methods

IN Ikeda, Tomiki; Aizawa, Masao; Fujisawa, Sen

PA Dainippon Ink and Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09K009-02

ICS C09K019-36; C09K019-52; G02F001-1333; G03C001-00

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2000328051  | A2   | 20001128 | JP 1999-136889  | 19990518 |
| PRAI | JP 1999-136889 |      | 19990518 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|---------------|-------|---|
| JP 2000328051 | ICM   | C09K009-02  |
|               | ICS   | C09K019-36; C09K019-52; G02F001-1333; G03C001-00  |
|               | IPCI  | C09K0009-02 [ICM,7]; C09K0019-36 [ICS,7]; C09K0019-52 [ICS,7]; G02F0001-1333 [ICS,7]; G03C0001-00 [ICS,7] |

AB The devices comprise: a pair of glass substrates; a cholesteric liq. crystal; a cross-linked resin; and a photochromic compd. (azobenzene or spiropyran), where the \*\*\*optical\*\*\* switching employs a variation of spiral pitch in the liq. crystal or a phase transition of the liq. crystal induced by the photochromic compd.

ST \*\*\*optical\*\*\* switching photochromic cholesteric liq crystal

IT Liquid crystals  
 (cholesteric; liq. crystal \*\*\*optical\*\*\* devices and  
 \*\*\*optical\*\*\* switch methods)

IT Membranes, nonbiological  
 (composite; liq. crystal \*\*\*optical\*\*\* devices and \*\*\*optical\*\*\*  
 switch methods)

IT Isomerization  
 Liquid crystals  
 Mesophase pitch  
 \*\*\*Optical\*\*\* filters  
 \*\*\*Optical\*\*\* instruments  
 \*\*\*Optical\*\*\* reflectors  
 \*\*\*Optical\*\*\* switches

Photochromism  
 (liq. crystal \*\*\*optical\*\*\* devices and \*\*\*optical\*\*\* switch

methods)  
 IT 13048-33-4 87321-20-8, S811 143067-45-2, E 48 (Liquid crystal)  
 153483-47-7 \*\*\*307504-26-3\*\*\*  
 RL: DEV (Device component use); USES (Uses)  
 (liq. crystal \*\*\*optical\*\*\* devices and \*\*\*optical\*\*\* switch  
 methods)

L8 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1997:311315 CAPLUS  
 DN 126:294559  
 ED Entered STN: 16 May 1997  
 TI Synthesis, electro- \*\*\*optical\*\*\* characteristics and antimicrobial  
 efficacy of some benzothiazolium asycyanine colorants  
 AU Ansari, A. S.; Gupta, A. K.  
 CS Department Chemistry, L.N. Mithila University, Darbhanga, 846 008, India  
 SO Asian Journal of Chemistry (1997), 9(3), 509-514  
 CODEN: AJCHEW; ISSN: 0970-7077  
 PB Asian Journal of Chemistry  
 DT Journal  
 LA English  
 CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
 Sensitizers)

AB Fourteen new benzothiazolium butadienylene chain-substituted asycyanine  
 dyes have been synthesized by catalytic condensation of  
 4-dimethylaminostyryl-4'-nitrophenyl ketone or 4-dimethylaminostyryl-4'-  
 methoxyphenyl ketone with 2-methylbenzothiazolium methiodide or its  
 6-substituted derivs. using piperidine as basic catalyst and ethanolic DMF  
 as solvent. These colorants were synthesized to study the effects of  
 electron acceptor and donor substituents at the 4'-position of the chain  
 .beta.-Ph nucleus chain elongation on absorption maxima and to evaluate  
 their antimicrobial activity. The dyes exhibited a uniform increase of  
 absorption maxima when collated with analogs having no substituents in the  
 .beta.-Ph nucleus and the analogs having a vinylene chain. Purified  
 samples were also investigated in vitro against Staphylococcus aureus and  
 Escherichia coli and some of them were active.

ST benzothiazolium asycyanine dye prepn bactericide; butadienylene  
 benzothiazolium asycyanine dye prepn

IT Cyanine dyes  
 (asycyanine; synthesis, electro- \*\*\*optical\*\*\* characteristics and  
 antimicrobial efficacy of some benzothiazolium asycyanine dyes)

IT Antibacterial agents  
 Staphylococcus aureus  
 (synthesis, electro- \*\*\*optical\*\*\* characteristics and antimicrobial  
 efficacy of some benzothiazolium asycyanine dyes)

IT Escherichia coli  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (synthesis, electro- \*\*\*optical\*\*\* characteristics and antimicrobial  
 efficacy of some benzothiazolium asycyanine dyes)

IT 1161-23-5 1230-77-9 2785-06-0, 2,3-Dimethylbenzothiazolium iodide  
 20064-94-2, 2,3,6-Trimethylbenzothiazolium iodide 20064-95-3,  
 6-Chloro-2,3-dimethylbenzothiazolium iodide 20064-96-4,  
 6-Ethoxy-2,3-dimethylbenzothiazolium iodide 42474-75-9,  
 6-Methoxy-2,3-dimethylbenzothiazolium iodide 114097-22-2,  
 6-Iodo-2,3-dimethylbenzothiazolium iodide 183011-53-2,  
 6-Bromo-2,3-dimethylbenzothiazolium iodide  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (starting material; synthesis, electro- \*\*\*optical\*\*\*  
 characteristics and antimicrobial efficacy of some benzothiazolium  
 asycyanine dyes)

IT \*\*\*183011-28-1P\*\*\* \*\*\*183011-29-2P\*\*\* \*\*\*183011-30-5P\*\*\*  
 \*\*\*183011-31-6P\*\*\* \*\*\*183011-32-7P\*\*\* \*\*\*183011-34-9P\*\*\*  
 \*\*\*183011-36-1P\*\*\* \*\*\*189109-62-4P\*\*\* \*\*\*189109-63-5P\*\*\*  
 \*\*\*189109-64-6P\*\*\* \*\*\*189109-65-7P\*\*\* \*\*\*189109-66-8P\*\*\*  
 \*\*\*189109-67-9P\*\*\* \*\*\*189109-68-0P\*\*\*  
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or  
 engineered material use); PREP (Preparation); USES (Uses)  
 (synthesis, electro- \*\*\*optical\*\*\* characteristics and antimicrobial  
 efficacy of some benzothiazolium asycyanine dyes)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
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- (6) Jacobson, P; Ber 1886, V19, P1067
- (7) Jha, B; Chemistry of Functional Dyes 1989
- (8) Jha, B; Dyes and Pigments (England) 1980, V1, P161 CAPLUS
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- (13) Shah, R; J Chem Soc 1932, P645
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L8 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1997:302998 CAPLUS  
 DN 127:72913  
 ED Entered STN: 12 May 1997  
 TI Photochromism of a Novel Class of Spiroindolines: 6-Aroyl-3,5-diarylspiro[cyclohexa-2,4-diene-1,2  
 AU Brede, Ortwin; Goebel, Leonie; Zimmermann, Thomas  
 CS Max Planck Society, Research Unit Time-Resolved Spectroscopy, University of Leipzig, Leipzig, D-04303, Germany  
 SO Journal of Physical Chemistry A (1997), 101(22), 4103-4109  
 CODEN: JPCAFH; ISSN: 1089-5639  
 PB American Chemical Society  
 DT Journal  
 LA English  
 CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 27  
 GI

/ Structure 4 in file .gra /

AB The photochromism of a new class of spiro compds. (spiro[cyclohexadieneindolines]) (I; Ar = Ph, 4-C6H4-Br; Ar2 = Ph, 4-C6H4-Br, 4-C6H4-OMe; R = Me, Ph; R2 = H, Br, NO2) was studied by UV and visible stationary photolysis and \*\*\*laser\*\*\* flash photolysis (.lambda. = 266, 353, and 532 nm). Analogous to spiropyrans, isomerization to ring-opened compds. (merocyanines) and formation of spiro compd. triplets were obsd. Visible light illumination of the red merocyanines regenerated the original spiro compd. Because decompn. reactions compete with recyclization in soln., under these conditions only three switching cycles could be verified. In the case of spiroindolines embedded in a polyethylene matrix after five cycles, no decompn. was obsd. Photoisomerization proceeds via the first excited singlet states of the spiro compds. and merocyanines, resp. Quantum yields of all reactions and spectra and extinction coeffs. of the spiro[cyclohexadieneindolines] and of their isomerization products (merocyanines) were given.  
 ST photochromism spiroindoline ring opening closing; photoisomerization spiroindoline merocyanine photochromism  
 IT Unsaturated compounds  
 RL: FMU (Formation, unclassified); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)  
 (cyanines; photoisomerization-ring opening-ring closing in photochromism of spiroindoline-merocyanine systems)  
 IT Spiro compounds  
 RL: FMU (Formation, unclassified); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)  
 (indolines; photoisomerization-ring opening-ring closing in photochromism of spiroindoline-merocyanine systems)  
 IT Cyclization  
 Photochromism  
 Ring opening  
 (photoisomerization-ring opening-ring closing in photochromism of spiroindoline-merocyanine systems)  
 IT Isomerization  
 (photoisomerization; photoisomerization-ring opening-ring closing in photochromism of spiroindoline-merocyanine systems)  
 IT 170462-36-9 170462-38-1 170462-40-5 170462-44-9 170462-46-1



170462-47-2 170462-57-4 190326-27-3 190326-29-5 190326-31-9  
190326-33-1 \*\*\*190326-34-2\*\*\* 190326-35-3 190326-37-5  
RL: FMU (Formation, unclassified); PRP (Properties); RCT (Reactant); FORM  
(Formation, nonpreparative); RACT (Reactant or reagent)  
(reactions of; photoisomerization-ring opening-ring closing in  
photochromism of spiroindoline-merocyanine systems)

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Anh, N; Die Woodward-Hoffmann-Regeln und ihre Anwendung 1972
- (2) Bertelson, R; Photochromism 1971
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40 1990
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L8 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1992:436689 CAPLUS

DN 117:36689

ED Entered STN: 26 Jul 1992

TI \*\*\*Optical\*\*\* recording medium containing photochromic material and  
its recording method using linear polarized light beam

IN Tsujioka, Tsuyoshi; Matura, Kotaro

PA Sanyo Electric Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C001-00

ICS G03C005-56; G11B007-00; G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 03220549   | A2   | 19910927 | JP 1990-16773   | 19900126 |
|      | JP 08030863   | B4   | 19960327 |                 |          |
| PRAI | JP 1990-16773 |      | 19900126 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-------------|-------|------------------------------------|
| JP 03220549 | ICM   | G03C001-00                         |

ICS G03C005-56; G11B007-00; G11B007-24  
IPCI G03C0001-00 [ICM,5]; G03C0005-56 [ICS,5]; G11B0007-00  
[ICS,5]; G11B0007-24 [ICS,5]

AB An \*\*\*optical\*\*\* recording medium possess plural recording layers  
contg. a photochromic material having different mol. orientation in each  
layer. Preferably it sets up 3 recording layers to one identical  
photochromic diagonal to each other. Recording is carried out by  
irradiating the medium with a linear polarized light beam having its  
polarizing plane concurred with the mol. orientation of each layer.  
Alternatively it is carried out by irradiating the medium in mol.  
nonoriented state with multiple light beams differing in their polarizing  
planes which are preferably diagonal to each other. The medium provides  
multirecordings on a single photochromic material using a \*\*\*laser\*\*\*  
beam with different polarizing planes and without changing its wavelength,  
since the photochromic material undergoes large photochem. reaction when  
the polarizing plane concurs with the mol. orientation, and otherwise  
little photochem. reaction is induced.

ST \*\*\*optical\*\*\* recording medium photochromic; linear polarized light  
\*\*\*laser\*\*\* beam

IT Photochromic substances  
( \*\*\*optical\*\*\* recording materials contg.)

IT Recording materials  
( \*\*\*optical\*\*\* , \*\*\*laser\*\*\* , contg. photochromic compds.)

IT 1498-88-0 \*\*\*84880-32-0\*\*\*  
RL: TEM (Technical or engineered material use); USES (Uses)  
( \*\*\*optical\*\*\* recording materials contg.)

L8 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1987:486939 CAPLUS  
DN 107:86939  
ED Entered STN: 05 Sep 1987  
TI Synthesis and photochromic properties of some 1-octyl-3,3-  
dimethylindolinospiropyran  
AU Li, Zhongjie; Dong, Yigong  
CS Dep. Chem., Northwest Univ., Xian, Peop. Rep. China  
SO Yingyong Huaxue (1987), 4(2), 71-3  
CODEN: YIHUED; ISSN: 1000-0518  
DT Journal  
LA Chinese  
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
OS CASREACT 107:86939  
GI

/ Structure 5 in file .gra /

AB The reaction of I with II (R1 = NO2, Cl, Br, H; R2 = H, NO2) produced  
equil. of III and IV. When the obtained compds. were dissolved in a polar  
solvent, such as EtOH, the color of the solns. were blue-purple and the  
color was relatively stable under natural light, whereas in a nonpolar  
solvent the color of the solns. faded very fast in the dark. Good  
photochromic films were obtained with the compds.

ST photochromic indolinospiropyran; spiropyren dimethylindolino photochromic

IT Photochromic substances  
(octyldimethylindolinospiropyran)

IT Photochromism  
(of octyldimethylindolinospiropyran compds.)

IT \*\*\*Optical\*\*\* imaging devices  
(photochromic, prepn. and photochromic properties of  
octyldimethylindolinospiropyran for)

IT 34756-29-1P 84494-69-9P 109872-30-2P 109872-31-3P  
\*\*\*109872-32-4P\*\*\* 109872-33-5P 109872-34-6P 109872-35-7P  
109872-36-8P 109872-37-9P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and photochromic properties of)

IT 90-02-8, reactions 56859-66-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, in prepn. of photochromic octyldimethylindolinospiropyran

s)

L8 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1976:439303 CAPLUS  
 DN 85:39303  
 ED Entered STN: 12 May 1984  
 TI Diazo paper with dual recording surfaces  
 IN Goto, Toshinao  
 PA Ricoh Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC G03C  
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
 FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 51018530   | A2   | 19760214 | JP 1974-89831   | 19740807 |
| PRAI | JP 1974-89831 | A    | 19740807 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-------------|-------|------------------------------------|
| JP 51018530 | IC    | G03C                               |
|             | IPCI  | G03C0001-76; G03C0001-52 [ICA]     |

AB For prepg. a copying material for dual surface recording in which both surfaces of a support are coated with a diazonium salt, a water-sol. cyanine dye, which absorbs light in the same wavelength region as that which decomps. the diazonium salt, is incorporated in the support, the layer between the support and the photosensitive layer, or the photosensitive layer itself. Thus, a soln. of 2-(4'-chlorophenyl)vinyl-3-hydroxyethyl dimethylbenzothiazolium iodide 0.1 g in H2O 100 ml was coated on a paper support. Both surfaces of this coated paper were then coated with a soln. contg. p-dimethylaminobenzenediazonium chloride-ZnCl2 salt 1, p-N-ethylol-N-ethylaminobenzenediazonium chloride-ZnCl2 salt 2.5, tartaric acid 4, and Na 2,3-dihydroxynaphthalene-6-sulfonate 5 g. When each surface was exposed through an original using a Hg lamp and developed with NH3 gas at the same speed, images were obtained on both surfaces with the same \*\*\*optical\*\*\* d.

ST diazo copy paper  
 IT Diazo process  
 (copy paper for, imagable on both sides)  
 IT \*\*\*59808-32-1\*\*\*  
 RL: USES (Uses)  
 (diazo copy paper coated by, for dual-surface imaging)

L8 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1971:4702 CAPLUS  
 DN 74:4702  
 ED Entered STN: 12 May 1984  
 TI Benzimidazole fluorescent whitening agents  
 PA Farbwerke Hoechst A.-G.  
 SO Fr., 17 pp.  
 CODEN: FRXXAK  
 DT Patent  
 LA French  
 IC C09B; C07D  
 CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)  
 FAN.CNT 1

|      | PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE |
|------|------------|------|----------|-----------------|------|
| PI   | FR 1576989 |      | 19690801 | FR              |      |
|      | DE 1670908 |      |          | DE              |      |
|      | GB 1244762 |      |          | GB              |      |
| PRAI | DE         |      | 19670816 |                 |      |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|------------|-------|------------------------------------|
| FR 1576989 | IC    | C09B; C07D                         |
|            | IPCI  | C09B; C07D                         |

GI For diagram(s), see printed CA Issue.  
 AB Compds. of the formula I, useful as \*\*\*optical\*\*\* brighteners for

polyacrylonitrile, were prepd. Thus, a mixt. of 20.6 parts 4-MeO<sub>2</sub>CC<sub>6</sub>H<sub>4</sub>CH:CHCO<sub>2</sub>H and 50 parts SOCl<sub>2</sub> was refluxed for 3 hr, excess SOCl<sub>2</sub> distd., the acid chloride dissolved in 20 parts HCONMe<sub>2</sub>, added gradually at 30.degree. to a soln. of 16.6 parts 2,4,5-O<sub>2</sub>N(Me)<sub>2</sub>C<sub>6</sub>H<sub>2</sub>NH<sub>2</sub> in 30 parts HCONMe<sub>2</sub> and 8 parts pyridine, the mixt. stirred at 70-80.degree. for 2 hr, and the ppt. filtered to give II (R<sub>1</sub> = R<sub>2</sub> = Me, R = H, X = CO<sub>2</sub>Me, Y = NO<sub>2</sub>) (III), m. 222-4.degree. (HCONMe<sub>2</sub>-MeOH). Similarly 8 other II (Y = NO<sub>2</sub>) were prepd. A mixt. of III 70, HCONMe<sub>2</sub> 130, and Raney Ni 3 parts was reduced with H to give II (R = H, R<sub>1</sub> = R<sub>2</sub> = Me, X = CO<sub>2</sub>Me, Y = NH<sub>2</sub>) (IV), m. 195-7.degree. (EtOH). Similarly 6 other II (Y = NH<sub>2</sub>) were prepd. A mixt. of 55 parts IV and 100 parts AcOH was refluxed for 2 hr under N to give I (R = H, R<sub>1</sub> = R<sub>2</sub> = Me, X = CO<sub>2</sub>Me), m. 246-7.degree. (EtOH). Similarly 7 other I were prepd. A mixt. of 50 parts I (R = H, R<sub>1</sub> = R<sub>2</sub> = Me, X = CN), 150 parts HCONMe<sub>2</sub>, and 40 parts Me<sub>2</sub>SO<sub>4</sub> was heated at 30-40.degree. with 40 parts 22% NaOH within 50 min and stirred at 30-40.degree. for several hr to give I (R = R<sub>1</sub> = R<sub>2</sub> = Me, X = CN) (V), m. 238-40.degree. (HCONMe<sub>2</sub>MeOH). Similarly 5 other I were prepd. A mixt. of 3.5 parts V and 6 parts 4-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>Me was heated at 120-30.degree. for 1 hr to give VI (Z = 4-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>), m. 321-3.degree. (HCONMe<sub>2</sub>). Similarly prepd. was VI (Z = MeSO<sub>4</sub>) and 2 other I.Me<sub>2</sub>SO<sub>4</sub>.

ST benzimidazoles whiteners; styrenylbenzimidazoles whiteners;

IT benzimidazolium salts whiteners; acrylic fibers whiteners

Fiber, acrylic, uses and miscellaneous

RL: USES (Uses)

(fluorescent brightening agents for, styrylbenzimidazole derivs. as)

IT Fluorescent brightening agents

(styrylbenzimidazole derivs., for acrylic fiber)

IT 3',4'-Cinnamoxylidide, 4-chloro-6'-nitro-

3',4'-Cinnamoxylidide, 4-cyano-6'-nitro-

3',4'-Cinnamoxylidide, 6'-amino-4-chloro-

3',4'-Cinnamoxylidide, 6'-amino-4-cyano-

Benzimidazole, 2-(p-chlorostyryl)-5,6-dimethyl-

Benzimidazole, 2-(p-chlorostyryl)-5-methoxy-1-methyl-

Benzimidazole, 5-chloro-2-(p-chlorostyryl)-1-methyl-

Benzoic acid, p-[2-(1,5,6-trimethyl-2-benzimidazolyl)vinyl]-, ester with (2-hydroxyvinyl)trimethylammonium methyl sulfate

Benzoic acid, p-[2-(5,6-dimethyl-2-benzimidazolyl)vinyl]-, ester with (2-hydroxyvinyl)trimethylammonium methyl sulfate

Benzoic acid, p-[2-[(6-nitro-3,4-xylyl)carbamoyle]vinyl]-, methyl ester

Benzonitrile, p-[2-(1,5,6-trimethyl-2-benzimidazolyl)vinyl]-

Benzonitrile, p-[2-(5,6-dimethyl-2-benzimidazolyl)vinyl]-

Benzonitrile, p-[2-[1,5(or 1,6)-dimethyl-2-benzimidazolyl]vinyl]-

Cinnamanilide, 2'-amino-4,4'-dichloro-N-methyl-

Cinnamanilide, 2'-amino-4'-chloro-4-cyano-

Cinnamanilide, 4,4'-dichloro-N-methyl-2'-nitro-

Cinnamanilide, 4'-chloro-4-cyano-2'-nitro-

Ethenol, 2-(dimethylamino)-, p-[2-(1,5,6-trimethyl-2-benzimidazolyl)vinyl]benzoate (ester)

Ethenol, 2-(dimethylamino)-, p-[2-(5,6-dimethyl-2-benzimidazolyl)vinyl]benzoate (ester)

m-Cinnamotoluidide, 4-chloro-6'-nitro-

m-Cinnamotoluidide, 6'-amino-4-chloro-

p-Cinnamanisidide, 2'-amino-4-chloro-

p-Cinnamanisidide, 4-chloro-2'-nitro-

p-Cinnamotoluidide, 4-cyano-2'-nitro-

RL: IMF (Industrial manufacture); PREP (Preparation) (prepn. of)

IT \*\*\*26513-17-7P\*\*\* 30067-69-7P 30067-70-0P, Benzoic acid, p-[2-[(6-amino-3,4-xylyl)carbamoyle]vinyl]-, methyl ester 30067-77-7P, Benzoic acid, p-[2-(5,6-dimethyl-2-benzimidazolyl)vinyl]-, methyl ester

\*\*\*30067-79-9P\*\*\* 30067-81-3P 30067-84-6P, Benzoic acid, p-[2-(1,5,6-trimethyl-2-benzimidazolyl)vinyl]-, methyl ester 30067-85-7P, Benzoic acid, p-[2-(5,6-dimethyl-2-benzimidazolyl)vinyl]-, 2-(dimethylamino)vinyl ester 30067-86-8P, Benzoic acid, p-[2-(1,5,6-trimethyl-2-benzimidazolyl)vinyl]-, 2-(dimethylamino)vinyl ester 30067-87-9P, Ammonium, (2-hydroxyvinyl)trimethyl-, methyl sulfate, p-[2-(5,6-dimethyl-2-benzimidazolyl)vinyl]benzoate 30067-88-0P, Ammonium, (2-hydroxyvinyl)trimethyl-, methyl sulfate, p-[2-(1,5,6-trimethyl-2-benzimidazolyl)vinyl]benzoate 31599-37-8P 31599-38-9P

RL: IMF (Industrial manufacture); PREP (Preparation) (prepn. of)

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=> s (photographic) and l7
    93283 PHOTOGRAPHIC
      5 PHOTOGRAPHICS
    93288 PHOTOGRAPHIC
      (PHOTOGRAPHIC OR PHOTOGRAPHICS)
    71186 PHOTOG
      136 PHOTOGS
    71288 PHOTOG
      (PHOTOG OR PHOTOGS)
    110282 PHOTOGRAPHIC
      (PHOTOGRAPHIC OR PHOTOG)
L9      11 (PHOTOGRAPHIC) AND L7
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=> d all 1-11
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L9  ANSWER 1 OF 11  CAPLUS  COPYRIGHT 2005 ACS on STN
AN  2004:801641  CAPLUS
DN  141:304208
ED  Entered STN:  01 Oct 2004
TI  Methine spectral dyes for silver halide  ***photographic***  films
IN  Kobayashi, Masaru; Kawanishi, Yasuhiro; Murobuse, Masako
PA  Fuji Photo Film Co., Ltd., Japan
SO  Jpn. Kokai Tokkyo Koho, 73 pp.
    CODEN: JKXXAF
DT  Patent
LA  Japanese
IC  ICM  G03C001-12
    ICS  C09B023-00; C09B057-00; G03C001-18
CC  74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other
    Reprographic Processes)
    Section cross-reference(s): 41
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FAN.CNT 1
PATENT NO.      KIND      DATE      APPLICATION NO.      DATE
-----
PI  JP 2004271861      A2      20040930      JP 2003-61971      20030307
PRAI JP 2003-61971      20030307
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CLASS
PATENT NO.      CLASS      PATENT FAMILY CLASSIFICATION CODES
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JP 2004271861  ICM      G03C001-12
    ICS      C09B023-00; C09B057-00; G03C001-18
    IPCI     G03C0001-12 [ICM,7]; C09B0023-00 [ICS,7]; C09B0057-00
    FTERM    2H023/CA06; 2H023/CA07; 4H056/CA01; 4H056/CA02;
    4H056/CA05; 4H056/CB01; 4H056/CB06; 4H056/CC02;
    4H056/CC08; 4H056/CE03; 4H056/CE06; 4H056/DD04;
    4H056/DD19; 4H056/DD23; 4H056/DD28; 4H056/DD29;
    4H056/DD30; 4H056/EA16; 4H056/FA05
AB  The title dyes contains a dye changing the assocn. properties by pH
    change. The dye generates little residual color after processed in
    ***photog*** . films.
ST  methine spectral dye silver halide  ***photog***  film
IT  ***Photographic*** sensitizers
    (methine spectral dye for silver halide  ***photog*** . films)
IT  115-80-0, Triethyl orthopropionate  1120-71-4, Propane sultone
    5676-56-2, 5-Bromo-2-methylbenzoxazole  180516-87-4
    RL: RCT (Reactant); RACT (Reactant or reagent)
    (methine spectral dye for silver halide  ***photog*** . films)
IT  406232-91-5P  765299-38-5P
    RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
    (Reactant or reagent)
    (methine spectral dye for silver halide  ***photog*** . films)
IT  765299-40-9P  ***765299-42-1P***  ***765299-44-3P***  765299-46-5P
    RL: SPN (Synthetic preparation); TEM (Technical or engineered material
    use); PREP (Preparation); USES (Uses)
    (methine spectral dye for silver halide  ***photog*** . films)
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L9  ANSWER 2 OF 11  CAPLUS  COPYRIGHT 2005 ACS on STN
AN  2003:373886  CAPLUS
DN  138:393018
ED  Entered STN:  16 May 2003
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TI Photothermographic film material and image formation method  
IN Yabuki, Yoshiharu; Yamane, Katsutoshi; Suzuki, Ryo; Inoue, Rikio  
PA Fuji Photo Film Co., Ltd., Japan  
SO Eur. Pat. Appl., 80 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
IC ICM G03C001-498  
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|------|--|------|----------|-----------------|----------|
| PI   | EP 1310825   | A1   | 20030514 | EP 2002-25536   | 20021113 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK |      |          |                 |          |
|      | JP 2003215751  | A2   | 20030730 | JP 2002-328090  | 20021112 |
|      | US 2003219684  | A1   | 20031127 | US 2002-292701  | 20021113 |
|      | US 6749999   | B2   | 20040615 |                 |          |
| PRAI | JP 2001-346956   | A    | 20011113 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| EP 1310825    | ICM   | G03C001-498  |
|               | IPCI  | G03C0001-498 [ICM,7]   |
|               | ECLA  | G03C001/498E1A   |
| JP 2003215751 | IPCI  | G03C0001-76 [ICM,7]; G03C0001-498 [ICS,7]; G03C0005-08 [ICS,7]                           |
| US 2003219684 | IPCI  | G03C0001-498 [ICM,7]; G03C0001-815 [ICS,7];<br>G03C0001-825 [ICS,7]; G03C0001-83 [ICS,7] |
|               | NCL   | 430/350.000  |
|               | ECLA  | G03C001/498E1A   |

OS MARPAT 138:393018

AB Disclosed is a photothermog. film comprising a support, a photosensitive layer contg. a silver halide having a silver iodide content of 10 mol% or more and a reducing agent, and a non-photosensitive layer provided on the support, wherein at least one of the photosensitive layer and the non-photosensitive layer contains a dye showing an absorption max. in a wavelength range of 350-430 nm. The inventive photothermog. film exhibits high image quality, superior color tone and superior image stability after development.

ST photothermog \*\*\*photog\*\*\* film dye image development

IT Photothermographic copying

(photothermog. film material and image formation method in relation to)

IT \*\*\*Photographic\*\*\* films

(photothermog.; photothermog. film material and image formation method)

IT 21528-48-3 23130-35-0 99740-27-9 288582-65-0 524936-58-1

524936-59-2 524936-60-5 524936-61-6 524936-62-7 524936-63-8

524936-65-0 524936-66-1 524936-67-2 \*\*\*524936-68-3\*\*\*

\*\*\*524936-69-4\*\*\* 524936-71-8 524936-72-9 524936-73-0

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(photothermog. film material and image formation method)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Fuji Photo Film Co Ltd; GB 1422057 A 1976 CAPLUS

(2) Fuji Photo Film Co Ltd; EP 1276006 A 2003 CAPLUS

(3) Fuji Photo Film Co Ltd; EP 1276007 A 2003 CAPLUS

(4) Harada, T; US 5998126 A 1999 CAPLUS

L9 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:451164 CAPLUS

DN 135:53464

ED Entered STN: 22 Jun 2001

TI Silver halide \*\*\*photographic\*\*\* materials and methine dyes for their spectral sensitization

IN Kato, Takashi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 19 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C001-10  
ICS C09B023-00; G03C001-18; G03C007-00  
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 40

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2001166413  | A2   | 20010622 | JP 1999-347781  | 19991207 |
| PRAI | JP 1999-347781 |      | 19991207 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| JP 2001166413 | ICM   | G03C001-10   |
|               | ICS   | C09B023-00; G03C001-18; G03C007-00   |
|               | IPCI  | G03C0001-10 [ICM,7]; C09B0023-00 [ICS,7]; G03C0001-18 [ICS,7]; G03C0007-00 [ICS,7] |

OS MARPAT 135:53464

GI

/ Structure 6 in file .gra /

AB The material contains .gtoreq.1 layers comprising emulsions contg. Ag halide particles, having max. spectral absorption of intensity .gtoreq.60 at <500 nm or having max. spectral absorption of intensity .gtoreq.100 at .gtoreq.500 nm, that are spectrally sensitized with .gtoreq.1 compds. having .gtoreq.1 hydrogen bonding groups. \*\*\*Photog\*\*\* . materials with emulsion layers contg. I (L1-6 = methine group; R1-2 = alkyl, aryl, heterocycle; R3 = heterocycle, aryl, alkyl having .gtoreq.1 carboxyl group; Z1-2 = groups for forming 5- or 6-membered N-contg. heterocycles, optionally condensed; p1, p2 = 0, 1; M = neutralizing ion; m = 0-10 for neutralizing elec. charge). The compd. I is also claimed. The emulsions have high sensitivity.

ST spectral sensitization silver halide \*\*\*photog\*\*\* emulsion; methine dye spectral sensitization \*\*\*photog\*\*\* emulsion

IT \*\*\*Photographic\*\*\* sensitizers  
(dyes; silver halide \*\*\*photog\*\*\* . emulsions spectrally sensitized with methine dyes)

IT Cyanine dyes  
\*\*\*Photographic\*\*\* emulsions  
(silver halide \*\*\*photog\*\*\* . emulsions spectrally sensitized with methine dyes)

IT \*\*\*345205-29-0P\*\*\*  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(silver halide \*\*\*photog\*\*\* . emulsions spectrally sensitized with methine dyes)

IT 552-30-7 345205-32-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(silver halide \*\*\*photog\*\*\* . emulsions spectrally sensitized with methine dyes)

L9 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:331093 CAPLUS

DN 122:105870

ED Entered STN: 04 Feb 1995

TI Method of producing new 3-methyl-5-phenyl-2-(nitrostyryl)benzoxazolium methylsulfates as \*\*\*photographic\*\*\* desensitizers

IN Marzec, Krzysztof

PA Uniwersytet Mikolaja Kopernika, Pol.

SO Pol., 4 pp.

CODEN: POXXA7

DT Patent

LA Polish

IC ICM C07D263-56

CC 28-6 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 74

FAN.CNT 1

|  | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------------|------|------|-----------------|------|
|--|------------|------|------|-----------------|------|

PI PL 163225 B1 19940228 PL 1990-286606 19900821  
PRAI PL 1990-286606 19900821

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|------------|-------|------------------------------------|
| PL 163225  | ICM   | C07D263-56                         |
|            | IPCI  | C07D0263-56 [ICM,5]                |

OS CASREACT 122:105870  
GI

/ Structure 7 in file .gra /

AB Title compds. I [X = NO2 and Y = H (II), and vice versa (III)] were prepd. by condensation reaction of 2,3-dimethyl-5-phenylbenzoxazolium methylsulfate (IV) with 3- or 4-nitrobenzaldehyde at reflux temp. in an org. solvent. I are useful as \*\*\*photog\*\*\*. desensitizers (no data). For example, reaction of IV with 3-O2NC6H4CHO in refluxing AcOH in the presence of piperidine as catalyst gave II in 38.5% yield. A similar reaction of 4-O2NC6H4CHO without catalyst gave 25.6% III.

ST methylphenylnitrostyrylbenzoxazolium methylsulfate prepn \*\*\*photog\*\*\* desensitizer; benzoxazolium methylphenylnitrostyryl methylsulfate prepn \*\*\*photog\*\*\* desensitizer; condensation nitrobenzaldehyde dimethylphenylbenzoxazolium methylsulfate

IT Condensation reaction  
Condensation reaction catalysts  
(condensation of dimethylphenylbenzoxazolium methylsulfate with nitrobenzaldehydes)

IT Photography  
(desensitizers; prepn. of methyl(nitrostyryl)benzoxazolium methylsulfates as \*\*\*photog\*\*\*. desensitizers)

IT 110-89-4, Piperidine, uses  
RL: CAT (Catalyst use); USES (Uses)  
(catalyst; condensation of dimethylphenylbenzoxazolium methylsulfate with nitrobenzaldehydes)

IT 99-61-6, 3-Nitrobenzaldehyde 555-16-8, 4-Nitrobenzaldehyde, reactions 159505-46-1, 2,3-Dimethyl-5-phenylbenzoxazolium methylsulfate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation of dimethylphenylbenzoxazolium methylsulfate with nitrobenzaldehydes)

IT 160665-86-1P, 3-Methyl-5-phenyl-2-(3-nitrostyryl)benzoxazolium methylsulfate \*\*\*160665-88-3P\*\*\*, 3-Methyl-5-phenyl-2-(4-nitrostyryl)benzoxazolium methylsulfate  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepn. of methyl(nitrostyryl)benzoxazolium methylsulfates as \*\*\*photog\*\*\*. desensitizers)

L9 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1995:110505 CAPLUS  
DN 122:20363  
ED Entered STN: 08 Nov 1994  
TI Silver halide color \*\*\*photographic\*\*\* materials  
IN Kimura, Kazuhiko; Hirabayashi, Shigeto  
PA Konishiroku Photo Ind, Japan  
SO Jpn. Kokai Tokkyo Koho, 39 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese  
IC ICM G03C007-34  
ICS G03C001-34  
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------------|------|----------|-----------------|----------|
| PI JP 06186703      | A2   | 19940708 | JP 1992-342763  | 19921222 |
| PRAI JP 1992-342763 |      | 19921222 |                 |          |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|------------|-------|------------------------------------|
|------------|-------|------------------------------------|



JP 06186703 ICM G03C007-34  
ICS G03C001-34  
IPCI G03C0007-34 [ICM,5]; G03C0001-34 [ICS,5]

GI

/ Structure 8 in file .gra /

AB The title \*\*\*photog\*\*\* . materials comprising blue-, green-, and red-sensitive Ag halide emulsion layers on a support contain .gtoreq.1 coupler I [R1 = CONR4R5, NHCOR4, NHCO2R6, NHCONR4R5, NHSO2NR4R5 (R4, R5 = H, arom. group, aliph. group, heterocyclyl; R6 = arom. group, aliph. group, heterocyclyl); R2 = monovalent group; R3 = substituent; X = H, releasing group on reacting with oxidized arom. primary amine developing agents; m = 0-3; when m = 2 or 3, then R3 may be different from each other and may form a ring; R4R5, R2R3, RX2 may form a ring] and II and/or III [Z1, Z2 = O, S, Se, Te, NR26; [R26 = (substituted) alkyl, aryl]; V21-24, V31-34 = H, halo, aryl, (substituted) alkyl, alkoxy, alkoxycarbonyl, CO2H, OH, cyano; the adjacent 2 groups of V21-24 and V31-34 may form a condensed benzene ring; R21-25, R31-35 = H, halo, OH, alkyl, alkoxy, aryl, amino; the adjacent 2 groups of R21-25 and R31-35 may form a 5- or 6-membered ring; R36 = (substituted) alkyl, aryl; X = counter ion; k .gtoreq.0 to neutralize the charge] in .gtoreq.1 of the red-sensitive layer(s). The materials show high-photosensitivity, low-fog, and good storage stability of latent image. Thus, a color \*\*\*photog\*\*\* . film was prepd. by using red-sensitive Ag halide emulsion layers contg. I [R1 = CONH(CH2)3OC12H25; R2 = OCOBu-iso; R3 = X = H] and II (Z1 = O; V21 = V23 = V24 = R21 = R22 = R24 = R25 = H; V22 = Ph; R23 = NMe2).

ST color \*\*\*photog\*\*\* cyan coupler heterocycle  
IT \*\*\*Photographic\*\*\* couplers  
(cyan, color \*\*\*photog\*\*\* . materials contg. cyan couplers and heterocycles with improved storage stability of latent images)  
IT 13242-17-6 40442-35-1 158903-10-7 158903-11-8 158903-12-9  
158903-13-0 158903-15-2 158903-16-3 \*\*\*158903-17-4\*\*\*  
RL: MOA (Modifier or additive use); USES (Uses)  
(color \*\*\*photog\*\*\* . materials contg. cyan couplers and heterocycles with improved storage stability of latent images)  
IT 101820-05-7 109625-50-5 110729-23-2 111050-51-2 113952-65-1  
115825-96-2 124949-62-8 129970-24-7 159498-23-4 159498-24-5  
RL: TEM (Technical or engineered material use); USES (Uses)  
(coupler; color \*\*\*photog\*\*\* . materials contg. cyan couplers and heterocycles with improved storage stability of latent images)

L9 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:689552 CAPLUS

DN 121:289552

ED Entered STN: 10 Dec 1994

TI Silver halide color \*\*\*photographic\*\*\* materials

IN Onda, Hiroyuki; Hirabayashi, Shigeto

PA Konishiroku Photo Ind, Japan

SO Jpn. Kokai Tokkyo Koho, 46 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C007-36

ICS G03C001-34

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 06186706    | A2   | 19940708 | JP 1992-337469  | 19921217 |
| PRAI | JP 1992-337469 |      | 19921217 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-------------|-------|------------------------------------|
| JP 06186706 | ICM   | G03C007-36                         |

ICS G03C001-34  
IPCI G03C0007-36 [ICM,5]; G03C0001-34 [ICS,5]

GI For diagram(s), see printed CA Issue.  
AB The title \*\*\*photog\*\*\*. materials, comprising blue-, green-, and red-sensitive Ag halide emulsion layers on a support, contain .gtoreq.1 coupler I (R1 = monovalent substituent except H; Q = nonmetal atoms required to form a (N, S, O, and/or P-contg.) 3- to 5-membered ring; R2 = H, alkyl, alkoxy, aryloxy, amino, halo; Y = H, releasing group on coupling with oxidized arom. primary amine developing agents) and II and/or III [Z1, Z2 = O, S, Se, Te, NR26 [NR26 = (substituted) alkyl, aryl]; V21-24, V31-34 = H, halo, aryl, (substituted) alkyl, alkoxy, alkoxycarbonyl, CO2H, OH, cyano; the adjacent 2 groups of V21-24 and V31-V34 may form a condensed benzene ring; R21-25, R31-35 = H, halo, OH, alkyl, alkoxy, aryl, amino; the adjacent 2 groups of R21-25 and R31-35 may form a 5- or 6-membered ring; R36 = (substituted) alkyl, aryl; X = counter ion; k .gtoreq.0 to neutralize the charge] in .gtoreq.1 of the blue-sensitive layer(s). The materials show high-photosensitivity, low-fog, and good storage stability in latent image. Thus, a color \*\*\*photog\*\*\*. film was prepd. by using blue-sensitive Ag halide emulsion layers contg. IV and II (Z1 = O, V21 = V23 = V24 = R21 = R22 = R24 = R25 = H; V22 = Ph; R23 = NMe2).  
ST color \*\*\*photog\*\*\* yellow coupler heterocycle  
IT \*\*\*Photographic\*\*\* couplers  
(yellow, color \*\*\*photog\*\*\*. materials contg. yellow couplers and heterocyclic compds. with improved storage stability in latent images)  
IT 13242-17-6 40442-35-1 158903-10-7 158903-11-8 158903-12-9  
158903-13-0 158903-15-2 158903-16-3 \*\*\*158903-17-4\*\*\*  
RL: MOA (Modifier or additive use); USES (Uses)  
(color \*\*\*photog\*\*\*. materials contg. yellow couplers and heterocyclic compds. with improved storage stability in latent images)  
IT 142257-46-3 142257-52-1 142279-99-0 143182-60-9 144916-81-4  
158903-09-4  
RL: TEM (Technical or engineered material use); USES (Uses)  
(coupler; color \*\*\*photog\*\*\*. materials contg. yellow couplers and heterocyclic compds. with improved storage stability in latent images)

L9 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1994:495805 CAPLUS  
DN 121:95805  
ED Entered STN: 20 Aug 1994  
TI Silver halide color \*\*\*photographic\*\*\* material  
IN Ueda, Fuminori; Nishigaki, Junji  
PA Fuji Photo Film Co Ltd, Japan  
SO Jpn. Kokai Tokkyo Koho, 63 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese  
IC ICM G03C007-305  
ICS G03C001-18  
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 05241284   | A2   | 19930921 | JP 1992-78927   | 19920228 |
| PRAI | JP 1992-78927 |      | 19920228 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES        |
|-------------|-------|---|
| JP 05241284 | ICM   | G03C007-305                               |
|             | ICS   | G03C001-18                                |
|             | IPCI  | G03C0007-305 [ICM,5]; G03C0001-18 [ICS,5] |

GI

/ Structure 9 in file .gra /

AB A color silver halide \*\*\*photog\*\*\*. material possesses on a support at least each one of a yellow color coupler-contg. green-sensitive silver halide emulsion layer, a cyan coupler-contg. red-sensitive silver halide emulsion layer, and a silver emulsion layer giving interlayer effect to

the latter red-sensitive layer which is spectrally sensitized by a sensitizing dye. The specral sensitizing dye is represented by a cyanine dye (I; R11 - R14 = H, alkyl, aryl, aralkyl, alkoxy, aryloxy, halo, aryloxycarbonyl, alkoxycarbonyl, NH2, cyano, CONH2, CO2H, acyloxy; R11 and R12 or R13 and R14 do not simultaneously represent H; R15, R16 = alkyl, aralkyl; R17 = C.gtoreq.3 alkyl, aryl, aralkyl; X1 = counter anion; m = 0,1; when an inner is formed, m = 0). A plural no. of silver halide emulsion layers giving interlayer effect are present in the \*\*\*photog\*\*\* material, at least two of which possess silver halide grains with different av. grain sizes wherein the silver halide emulsion layer with larger av. grain size contains less development inhibitor-releasing compd. per 1 mol silver halide than the silver halide emulsion layer with smaller av. grain size. At least one of silver halide emulsion layers giving interlayer effect contains a development inhibitor-releasing compd. [II; R = H, substituent; Z = a group of nonmetal atoms required to form an (un)substituted azole ring contg. 2-4 N atoms; X = a group becoming a development inhibitor or its precursor after being cleaved by coupling reaction with an oxidized form of a developing agent and optionally reacting further with another mol. of the oxidized form of a developing agent]. This color \*\*\*photog\*\*\* material uses spectral sensitizers which strongly absorb light at 500-560 nm in the silver halide emulsion layer giving interlayer effect to the red-sensitive layer and provides high chromaticness and excellent color reprodn. and graininess.

ST color \*\*\*photog\*\*\* material; interlayer effect red sensitive layer; cyanine dye spectral sensitizer interlayer effect  
 IT \*\*\*Photographic\*\*\* films  
 (color, with silver halide emulsion layer contg. cyanine dye giving interlayer effect to red-sensitive silver halide emulsion layer, for high chromaticness and improved color reprodn. and graininess)  
 IT 67326-80-1 119105-68-9 123820-83-7 153575-29-2 156534-96-2  
 156534-98-4 156534-99-5 156535-00-1 \*\*\*156535-02-3\*\*\*  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 ( \*\*\*photog\*\*\* spectral sensitizer, color \*\*\*photog\*\*\* film with silver halide emulsion layer contg., for interlayer effect in red-sensitive silver halide layer)

L9 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1992:162439 CAPLUS  
 DN 116:162439  
 ED Entered STN: 17 Apr 1992  
 TI Silver halide color \*\*\*photographic\*\*\* material and sensitizing dyes for said material  
 IN Okusa, Hiroshi; Asano, Satomi; Kagawa, Nobuaki  
 PA Konica Co., Japan  
 SO Jpn. Kokai Tokkyo Koho, 39 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G03C001-28  
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 41

FAN.CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE     |
|--------------------|------|----------|-----------------|----------|
| JP 03219233        | A2   | 19910926 | JP 1990-14422   | 19900124 |
| PRAI JP 1990-14422 |      | 19900124 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-------------|-------|------------------------------------|
| JP 03219233 | ICM   | G03C001-28                         |
|             | IPCI  | G03C0001-28 [ICM,5]                |

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB In the title material comprising a support coated with .gtoreq.1 photosensitive Ag halide emulsion layer(s), Ag halide grains in .gtoreq.1 of the emulsion layers are spectrally sensitized by .gtoreq.1 sensitizing

dye represented by structure I and .gtoreq.1 sensitizing dye represented by structure II; the said layers contain .gtoreq.1 compd. selected from structures III, IV, etc. For I, II, III, IV, R11, R12, R21, R22, R45 = (substituted) alkyl; R13, R23 = H, (substituted) alkyl, aryl; X1, X2, X4 = counter ion; n, t, r = charge no.; R14, R24 = H, substituent; W11, W12, W21, W22 = H, substituent; or W11 and W12 or W21 and W22 may form fused ring; s, k = 0 or 1; Z3, Z4 = atoms for forming 5- or 6-membered N-contg. heterocyclic ring; R31 - R35, R41 - R45 = H, halo, hydroxy, alkyl, etc.; or among R31 - R35 and R41 - R45, adjacent substituents may form a 5- or 6-membered ring. The title material shows high storage stability.

ST silver halide color \*\*\*photog\*\*\* material; sensitizing dye color  
\*\*\*photog\*\*\* material  
IT \*\*\*Photographic\*\*\* sensitizers  
(benzoxazolium derivs. and analogs as)  
IT \*\*\*Photographic\*\*\* emulsions  
(sensitizing dyes and benzoxazole derivs. for)  
IT 888-92-6 4751-25-1 30216-38-7 59198-03-7 92795-36-3 139717-51-4  
139717-52-5 \*\*\*139717-54-7\*\*\* 139717-55-8 139717-56-9  
139717-57-0  
RL: TEM (Technical or engineered material use); USES (Uses)  
( \*\*\*photog\*\*\* . material contg.)  
IT 65293-95-0 113458-89-2 121305-11-1 124905-13-1 139717-41-2  
139717-42-3 139717-44-5 139717-45-6 139717-48-9 139717-50-3  
139739-68-7 139766-73-7  
RL: USES (Uses)  
(sensitizing dye, for \*\*\*photog\*\*\* . material)

L9 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1992:13232 CAPLUS  
DN 116:13232  
ED Entered STN: 11 Jan 1992  
TI Spectrally sensitized silver halide \*\*\*photographic\*\*\* material  
IN Okusa, Hiroshi; Kagawa, Nobuaki; Tanaka, Shinri  
PA Konica Co., Japan  
SO Eur. Pat. Appl., 72 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
IC ICM G03C001-29  
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE     |
|--------------------|------|----------|-----------------|----------|
| EP 439356          | A1   | 19910731 | EP 1991-300548  | 19910124 |
| R: DE, FR, GB      |      |          |                 |          |
| JP 03219232        | A2   | 19910926 | JP 1990-14421   | 19900124 |
| US 5166046         | A    | 19921124 | US 1991-639690  | 19910110 |
| PRAI JP 1990-14421 | A    | 19900124 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|-------------|-------|---|
| EP 439356   | ICM   | G03C001-29  |
|             | IPCI  | G03C0001-29 [ICM,5]   |
| JP 03219232 | IPCI  | G03C0001-28 [ICM,5]; G03C0001-12 [ICS,5]  |
| US 5166046  | IPCI  | G03C0001-16 [ICM,5]; G03C0001-18 [ICS,5]; G03C0001-28 [ICS,5]                             |
|             | NCL   | 430/572.000; 430/567.000; 430/576.000; 430/583.000; 430/585.000; 430/588.000; 430/594.000 |

OS MARPAT 116:13232  
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Silver halide \*\*\*photog\*\*\* . material having 1 or more light-sensitive silver halide emulsion layers on a support, the said \*\*\*photog\*\*\* . material is characterized in that at least 1 of said light-sensitive emulsion layers contains silver halide grains that are spectrally sensitized with at least 1 of the spectral sensitizers represented by

general formula I and further contains at least 1 of the compds.  
 represented by general formulas II and III. For I, Z1, Z2 = atoms for  
 forming a 5- or 6-membered N heterocyclic ring; L1 to L5 = methine; R1, R2  
 = (substituted) alkyl; X1 = charge balancing counter ion; k = a value of  
 zero or more for neutralizing elec. charge; l, t = 0 or 1; m, n = 0 to 2.  
 For II, Z3 = O, S, Se, etc.; V21 to V24 = H, halo, aryl, (substituted)  
 alkyl, etc.; R21 to R25 = H, halo, OH, alkyl, etc. For III, Z4 has the  
 same meaning as Z3; V31 to V34 have the same meanings as V21 to V24; R31  
 to R35 have the same meanings as R21 to R25; X2 and s have the same  
 meanings as X1 and k; R36 = (substituted) alkyl, aryl. The title material  
 has enhanced spectral sensitivity and improved storage stability.

ST silver halide \*\*\*photog\*\*\* material sensitized; spectrally sensitized  
 \*\*\*photog\*\*\* material  
 IT \*\*\*Photographic\*\*\* sensitizers  
 (benzoxazoles and analogs)  
 IT \*\*\*Photographic\*\*\* emulsions  
 (benzoxazoles and analogs for)  
 IT 36078-93-0 59066-61-4 59066-62-5 71907-23-8 71907-26-1  
 77669-08-0 84645-67-0 84645-80-7 137449-43-5 137449-44-6  
 137449-45-7 137449-46-8 137449-47-9 \*\*\*137449-49-1\*\*\*  
 137449-50-4 137449-51-5 137449-53-7 \*\*\*137449-54-8\*\*\*  
 RL: USES (Uses)  
 (spectral sensitizer, in \*\*\*photog\*\*\* . material)

L9 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1989:85281 CAPLUS  
 DN 110:85281

ED Entered STN: 04 Mar 1989  
 TI Novel marketing agent containing silver halide \*\*\*photographic\*\*\*  
 material

IN Hirano, Shigeo; Inoue, Akiyuki; Hioki, Tatsuo  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 35 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C001-06

ICA G03C001-485

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 63121042    | A2   | 19880525 | JP 1986-266866  | 19861110 |
|      | JP 05073212    | B4   | 19931013 |                 |          |
|      | US 4877723     | A    | 19891031 | US 1987-117725  | 19871106 |
| PRAI | JP 1986-266866 | A    | 19861110 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES                 |
|-------------|-------|--|
| JP 63121042 | ICM   | G03C001-06   |
|             | ICA   | G03C001-485  |
|             | IPCI  | G03C0001-06 [ICM,4]; G03C0001-485 [ICA,4]          |
| US 4877723  | IPCI  | G03C0001-48 [ICM,4]; G03C0001-06 [ICS,4]           |
|             | NCL   | 430/598.000; 430/410.000; 430/600.000; 430/940.000 |

OS MARPAT 110:85281

GI

/ Structure 10 in file .gra /

AB A Ag halide \*\*\*photog\*\*\* . material contain I [Z = 5-6-membered  
 ring-forming atom; R1 = aliph.; R2, R3, R4 = H, aliph., arom.; .gtoreq.1  
 of R1, R2, R3, R4 = alkynyl; Y = charge-balancing counter ion; n = no.  
 required to balance charges] in .gtoreq.1 of the Ag halide emulsion layers  
 other hydrophilic colloid layers. I (a novel nucleating agent) is  
 incorporated in as internal latent image-type Ag halide emulsion layer (or  
 a hydrophilic colloid emulsion layer) in case of a pos.-type  
 \*\*\*photog\*\*\* . material, and in surface latent image-type Ag halide  
 inclusion layer (or hydrophilic colloid layer) in case of a neg.-type  
 \*\*\*photog\*\*\* . material. The direct pos. material shown adequate

reversal characteristics (high Dmax and low Dmin) even at relatively low pHs and the neg. material shows increased sensitivity.

ST nucleating agent pos neg film

IT \*\*\*Photographic\*\*\* films  
(color, nucleating agent for direct pos. and neg.)

IT 119062-31-6 119062-32-7 119062-34-9 119062-35-0 119062-37-2  
119062-38-3 119062-40-7 \*\*\*119062-41-8\*\*\* 119062-42-9  
119062-44-1 119062-45-2 119062-47-4 119062-49-6 119062-51-0  
119062-53-2 119062-54-3 119062-55-4 119062-57-6 119062-58-7  
119062-59-8 119062-61-2 119062-63-4

RL: USES (Uses)  
(nucleating agent, pos. and neg. \*\*\*photog\*\*\* . film using)

IT 119062-64-5P 119062-65-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and reaction of, \*\*\*photog\*\*\* . nucleating agent from)

IT 4945-26-0, 2-Styryl quinoline 119062-66-7  
RL: USES (Uses)  
(prepn. reaction of, \*\*\*photog\*\*\* . nucleating agent from)

IT 100-52-7, Benzaldehyde, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of)

IT 91-63-4 107-19-7, 2-Propyn-1-ol 358-23-6, Trifluoromethanesulfonic  
acid anhydride 613-30-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, \*\*\*photog\*\*\* . nucleating agent from)

L9 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1970:84895 CAPLUS  
DN 72:84895  
ED Entered STN: 12 May 1984  
TI Supersensitizing carbocyanine dye combinations  
IN Shiba, Keisuke; Sato, Akira  
PA Fuji Photo Film Co., Ltd.  
SO Fr., 20 pp.  
CODEN: FRXXAK  
DT Patent  
LA French  
IC G03C  
CC 74 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

|      | PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE |
|------|------------|------|----------|-----------------|------|
| PI   | FR 1573694 |      | 19690704 | FR              |      |
|      | DE 1772956 |      |          | DE              |      |
|      | GB 1216203 |      |          | GB              |      |
|      | US 3617293 |      | 19710000 | US              |      |
| PRAI | JP         |      | 19670726 |                 |      |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|------------|-------|---|
| FR 1573694 | IC    | G03C  |
|            | IPCI  | G03C  |
| US 3617293 | NCL   | 430/574.000; 430/588.000; 430/594.000; 546/268.400;<br>546/270.100; 548/150.000 |

GI For diagram(s), see printed CA Issue.

AB The sensitization of \*\*\*photographic\*\*\* emulsions to red by meso-ethylthia- or selenacarbocyanines is greatly increased without substantial shift of the sensitivity max. by the simultaneous addn. of meso-phenylcarbocyanines contg. .gtoreq.1 naphthothio- or naphthoselenazole residue, more so than by meso-alkylnaphthazole dyes. Thus, in 100 g emulsion I and II are used in quantities of 4 .times. 10-4M, resp.

ST supersensitizers \*\*\*photog\*\*\* ; dyes supersensitizers \*\*\*photog\*\*\* ; carbocyanines supersensitizers; selenacarbocyanines supersensitizers

IT \*\*\*Photographic\*\*\* sensitizers  
(carbocyanine dye mixts.)

IT Photography  
(supersensitization in, by carbocyanine dye combinations)

IT 27268-38-8 27268-39-9 27268-40-2 \*\*\*27268-41-3\*\*\* 27268-42-4  
27268-43-5 27268-44-6 27268-45-7 27268-46-8 27268-47-9  
27268-48-0 27268-49-1 27268-50-4 27280-02-0

RL: USES (Uses)  
( \*\*\*photographic\*\*\* sensitizer)

=> d his

(FILE 'HOME' ENTERED AT 15:33:14 ON 29 DEC 2005)

FILE 'REGISTRY' ENTERED AT 15:33:21 ON 29 DEC 2005

L1 STRUCTURE UPLOADED  
L2 STRUCTURE UPLOADED  
L3 STRUCTURE UPLOADED  
L4 4645 S L1 SSS FULL  
L5 819 S L2 SSS FULL  
L6 271 S L3 SSS FULL

FILE 'CAPLUS' ENTERED AT 15:34:29 ON 29 DEC 2005

L7 69 S L6  
L8 12 S (OPTICAL OR LASER OR INFORMATION) AND L7  
L9 11 S (PHOTOGRAPHIC) AND L7

=> s (photographic) and l4

93283 PHOTOGRAPHIC  
5 PHOTOGRAPHICS  
93288 PHOTOGRAPHIC  
(PHOTOGRAPHIC OR PHOTOGRAPHICS)  
71186 PHOTOG  
136 PHOTOGS  
71288 PHOTOG  
(PHOTOG OR PHOTOGS)  
110282 PHOTOGRAPHIC  
(PHOTOGRAPHIC OR PHOTOG)  
751 L4  
L10 250 (PHOTOGRAPHIC) AND L4

=> s (optical or laser or information) and l4

855856 OPTICAL  
19 OPTICALS  
855864 OPTICAL  
(OPTICAL OR OPTICALS)  
509679 LASER  
158891 LASERS  
522808 LASER  
(LASER OR LASERS)  
392597 INFORMATION  
2988 INFORMATIONS  
394989 INFORMATION  
(INFORMATION OR INFORMATIONS)  
751 L4  
L11 112 (OPTICAL OR LASER OR INFORMATION) AND L4

=> s l11 not l8

L12 111 L11 NOT L8

=> d all 1-111

L12 ANSWER 1 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2005:1094815 CAPLUS  
ED Entered STN: 13 Oct 2005  
TI Copper Ion-Selective Fluorescent Sensor Based on the Inner Filter Effect  
Using a Spiropyran Derivative  
AU Shao, Na; Zhang, Ying; Cheung, SinMan; Yang, RongHua; Chan, WingHong; Mo,  
Tain; Li, KeAn; Liu, Feng  
CS College of Chemistry and Molecular Engineering, Peking University,  
Beijing, 100871, Peop. Rep. China  
SO Analytical Chemistry (2005), 77(22), 7294-7303  
CODEN: ANCHAM; ISSN: 0003-2700  
PB American Chemical Society  
DT Journal  
LA English  
CC 79-2 (Inorganic Analytical Chemistry)  
Section cross-reference(s): 27

AB A highly selective copper(II) ion fluorescent sensor was designed based on the UV-visible absorption of a spiropyran deriv. coupled using a metal porphyrin operative on the fluorescence inner filter effect. Spiropyrans, which combine the characteristics of metal binding and signal transduction, were widely used in cationic ion recognition by UV-visible spectroscopy. The viability of converting the absorption signal of the spiropyran mol. into a fluorescence signal was explored. On account of overlap of the absorption band of the spiropyran ( $\lambda_{abs} = 547 \text{ nm}$ ) in the presence of copper ion with the Q-band of an added fluorophore, zinc meso-tetraphenylporphyrin ( $\lambda_{abs} = 556 \text{ nm}$ ), the effective light absorbed by the porphyrin and concomitantly the emitted light intensity vary as a result of varying absorption of the spiropyran via fluorescence inner filter effect. The metal binding characteristic of the spiropyran presents an excellent selectivity for copper ion in comparison with several other heavy or transition metal ions. Since the changes in the absorbance of the absorber translate into exponential changes in fluorescence of the fluorophore, the novelty of the present device is that the anal. signal is more sensitive over that of the absorptiometry or that of the fluorometry using one single dye. To realize a practical fluorescent sensor, both the absorber and fluorophore were immobilized in a plasticized poly(vinyl chloride) membrane, and the sensing characteristics of the membrane for copper ion were studied. The sensor is useful for measuring  $\text{Cu}^{2+}$  at concns. ranging from  $7.5 \times 10^{-7}$  to  $3.6 \times 10^{-5} \text{ M}$  with a detection limit of  $1.5 \times 10^{-7} \text{ M}$ . The sensor is chem. reversible, the fluorescence was switched off by immersing the membrane in copper ion soln. and switched on by washing it with EDTA soln.

ST copper ion fluorescent sensor inner filter spiropyran deriv

IT Fluorescence quenching

Fluorescent substances

Fluorometry

(copper detn. in soln. by ion-selective fluorescent sensor based on inner filter effect using spiropyran deriv.)

IT \*\*\*Optical\*\*\* sensors

(fluorometric; copper detn. in soln. by ion-selective fluorescent sensor based on inner filter effect using spiropyran deriv.)

IT Spiro compounds

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(pyrans; copper detn. in soln. by ion-selective fluorescent sensor based on inner filter effect using spiropyran deriv.)

IT Heterocyclic compounds

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(spiopyrans; copper detn. in soln. by ion-selective fluorescent sensor based on inner filter effect using spiropyran deriv.)

IT 7440-50-8, Copper \*\*\*870704-57-7\*\*\*

RL: ANT (Analyte); ANST (Analytical study)  
(copper detn. in soln. by ion-selective fluorescent sensor based on inner filter effect using spiropyran deriv.)

IT 870704-54-4P

RL: ARG (Analytical reagent use); DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(copper detn. in soln. by ion-selective fluorescent sensor based on inner filter effect using spiropyran deriv.)

IT 65-61-2, Acridine orange 989-38-8, rhodamine 6G 2321-07-5, Fluorescein 20746-54-7

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(copper detn. in soln. by ion-selective fluorescent sensor based on inner filter effect using spiropyran deriv.)

IT 122-62-3, Bis(2-ethylhexyl) sebacate 9002-86-2, Polyvinyl chloride

14074-80-7, Zinc meso-tetraphenylporphyrin 14680-77-4, Potassium tetrakis(p-chlorophenyl)borate  
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)  
(copper detn. in soln. by ion-selective fluorescent sensor based on inner filter effect using spiropyran deriv.)

IT 2725-53-3P, 5-tert-Butyl-2-hydroxybenzaldehyde 5418-63-3P 478282-20-1P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(copper detn. in soln. by ion-selective fluorescent sensor based on inner filter effect using spiropyran deriv.)

IT 98-54-4, 4-tert-Butylphenol 1640-39-7, 2,3,3-Trimethylindolenine



RL: RCT (Reactant); RACT (Reactant or reagent)

(copper detn. in soln. by ion-selective fluorescent sensor based on inner filter effect using spiropyran deriv.)

RE.CNT 84 THERE ARE 84 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Ahmed, S; Eur J Org Chem 2003, P2437 CAPLUS
- (2) Anon; ACS Symposium Series 1992, V538
- (3) Anon; Handbook of Fluorescent Probes and Research Chemicals, 9th ed 2002
- (4) Anon; NATO ASI Series C 1997, V492
- (5) Arunkmar, E; J Am Chem Soc 2005, V122, P3156
- (6) Bahr, J; J Am Chem Soc 2001, V123, P7124 CAPLUS
- (7) Barthram, A; J New Chem 1998, P913 CAPLUS
- (8) Beer, P; Angew Chem, Int Ed 2001, V40, P487
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L12 ANSWER 2 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:1127153 CAPLUS  
 DN 142:76184  
 ED Entered STN: 24 Dec 2004  
 TI Fluorescent dyes based on polymethines for use in \*\*\*optical\*\*\* measurement  
 IN Czerney, Peter; Wenzel, Matthias; Schweder, Bernd; Lehmann, Frank  
 PA Dyomics GmbH, Germany  
 SO U.S. Pat. Appl. Publ., 10 pp., Cont.-in-part of U.S. Ser. No. 310,206.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM C12Q001-68  
 ICS C07D041-02; C07D043-02  
 INCL 546148000; 546176000  
 CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)  
 Section cross-reference(s): 1, 9, 63

FAN.CNT 2

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO.  | DATE     |
|------|---|------|----------|------------------|----------|
| PI   | US 2004260093   | A1   | 20041223 | US 2004-846789   | 20040514 |
|      | US 2003165942   | A1   | 20030904 | US 2002-310206   | 20021205 |
|      | DE 10356130   | A1   | 20050623 | DE 2003-10356130 | 20031128 |
|      | EP 1535969  | A2   | 20050601 | EP 2004-28161    | 20041126 |
|      | EP 1535969  | A3   | 20050608 |                  |          |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR, IS, YU |      |          |                  |          |
| PRAI | US 2002-310206  | A2   | 20021205 |                  |          |
|      | DE 2003-10356130  | A    | 20031128 |                  |          |
|      | DE 2001-10160524  | A    | 20011205 |                  |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| US 2004260093 | ICM   | C12Q001-68   |
|               | ICS   | C07D041-02; C07D043-02   |
|               | INCL  | 546148000; 546176000   |
|               | IPCI  | C12Q0001-68 [ICM,7]; C07D0041-02 [ICS,7]; C07D0043-02 [ICS,7]  |
|               | NCL   | 546/148.000  |
|               | ECLA  | C09B023/10   |
| US 2003165942 | IPCI  | C12Q0001-68 [ICM,7]; G01N0033-53 [ICS,7]; C07D0517-02 [ICS,7]; C07D0417-02 [ICS,7]; C07D0413-02 [ICS,7]; C07D0043-02 [ICS,7]   |
|               | NCL   | 435/006.000  |
|               | ECLA  | C09B023/10B  |
| DE 10356130   | IPCI  | C09B0023-06 [ICM,7]; A61K0049-00 [ICS,7]; C07D0405-02 [ICS,7]; C07D0407-02 [ICS,7]; C07D0491-052 [ICS,7]; G01N0033-58 [ICS,7]; G01N0033-533 [ICS,7]; C12Q0001-00 [ICS,7] |
|               | ECLA  | C09B023/10   |

EP 1535969 IPCI C09B0023-00 [ICM,7]; C09B0057-02 [ICS,7]; G01N0033-58  
[ICS,7]  
ECLA C09B023/10  
OS MARPAT 142:76184  
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention relates to fluorescent dyes (fluorophores) based on polymethines for use in \*\*\*optical\*\*\* measurement and detection procedures, in particular those employing fluorescence, for example in medicine, in pharmacol. and in the biol., materials and environmental sciences. The objective was to create fluorophores based on polymethines that have a large Stokes shift, high photostability, long storage life and a high fluorescent quantum yield, and that can be excited in the simplest possible manner by white-light sources or \*\*\*laser\*\*\* radiation in the UV, visible or NIR spectral region. According to the invention dyes on the basis of polymethines having the general formulas I, II or III are employed (e.g., 1-(5-carboxypentyl)-2-[(1E)-2-(7-diethylamino-2-oxo-2H-chromen-3-yl)vinyl]pyridinium bromide). The R1-R12 are the same or different and represent in each case H, Cl, Br, alkyl, aryl, heteroaryl, cycloalkyl, heterocycloalkyl, alkyloxy, alkylmercapto, aryloxy, arylmercapto, heteroaryloxy, heteroarylmercapto or cyano groups, one or more alkyl-substituted or cyclic amino functions, each having at most 12 carbon atoms, one or more hydroxy functions. The X-Y represent O, S, Se, Te or the structural element (CR<sub>2</sub>)<sub>n</sub>, NR or SO<sub>2</sub>, wherein R represents equal or different of the functions of R1-R12, and n is 1-4. The Z represents the group (CR<sub>2</sub>)<sub>p</sub>, wherein R represents equal or different groups of R1-R12, -(CH<sub>2</sub>)<sub>r</sub>-COOH or -(CH<sub>2</sub>)<sub>r</sub>-SO<sub>3</sub>H, or their dissociable salts, p is 1-4 and r is 1-7, or a combination of any of these groups, and m is 0-3.

ST fluorescence dye polymethine \*\*\*optical\*\*\* measurement pharmacol  
medicine

IT Fluorescent dyes  
(cyanine; prodn. of fluorescent dyes (fluorophores) based on polymethines for use in \*\*\*optical\*\*\* measurement)

IT \*\*\*Optical\*\*\* detectors  
(fluorescence; prodn. of fluorescent dyes (fluorophores) based on polymethines for use in \*\*\*optical\*\*\* measurement)

IT Cyanine dyes  
(fluorescent; prodn. of fluorescent dyes (fluorophores) based on polymethines for use in \*\*\*optical\*\*\* measurement)

IT Cyanine dyes  
Fluorescent indicators  
(prodn. of fluorescent dyes (fluorophores) based on polymethines for use in \*\*\*optical\*\*\* measurement)

IT 540527-97-7P, 1-(5-Carboxypentyl)-2-[(E)-2-(7-diethylamino-2-oxo-2H-chromen-3-yl)vinyl]pyridinium bromide 540528-00-5P, 1-(5-Carboxypentyl)-2-[(E)-2-(7-diethylamino-2-oxo-2H-chromen-3-yl)vinyl]-5-sulfonatopyridinium betaine 540528-03-8P, 1-(5-Carboxypentyl)-4-[(E)-2-(7-diethylamino-2-oxo-2H-chromen-3-yl)vinyl]pyridinium bromide 540528-06-1P, 1-(5-Carboxypentyl)-4-[(E)-2-[7-[ethyl-(3-sulfonatopropyl)amino]-2-oxo-2H-chromen-3-yl)vinyl]pyridinium betaine 540528-09-4P, 1-(5-Carboxypentyl)-4-[(E)-2-(7-diethylamino-2-oxo-2H-chromen-3-yl)vinyl]-3-sulfonatopyridinium betaine 540528-10-7P, 1-(5-Carboxypentyl)-4-[(E)-2-(7-diethylamino-4-methoxy-2-oxo-2H-chromen-3-yl)vinyl]-3-sulfonatopyridinium betaine 540528-12-9P, 1-(5-Carboxypentyl)-4-[(E)-2-(7-diethylamino-4-hydroxy-2-oxo-2H-chromen-3-yl)vinyl]-3-sulfonatopyridinium betaine \*\*\*540528-13-0P\*\*\*, 1-(5-Carboxypentyl)-2-[(E)-2-(7-diethylamino-4-hydroxy-2-oxo-2H-chromen-3-yl)-vinyl]-3,3-dimethyl-5-sulfonato-3H-indolium betaine 540528-15-2P, 1-(5-Carboxypentyl)-4-[(E)-2-(7-diethylamino-2-oxo-2H-chromen-3-yl)vinyl]chinolinium bromide 540528-17-4P, 1-(5-Carboxypentyl)-4-[(E)-2-(7-diethylamino-2-oxo-2H-chromen-3-yl)vinyl]-6-sulfochinolinium betaine 540528-18-5P, 1-(5-Carboxypentyl)-2-[(E)-2-(7-diethylamino-2-oxo-2H-chromen-3-yl)-vinyl]-6-methyl-chinolinium bromide 540528-20-9P, 1-(5-Carboxypentyl)-2-[(E)-2-(6-diethylaminobenzofuran-2-yl)vinyl]-5-sulfonatopyridinium betaine 540528-21-0P, 1-(5-Carboxypentyl)-4-[(E)-2-(6-diethylaminobenzofuran-2-yl)vinyl]-3-sulfonatopyridinium betaine 540528-22-1P, 1-(5-Carboxypentyl)-4-[(E)-2-(6-diethylaminobenzofuran-2-

yl)vinyl]-6-sulfonatochinolinium betaine \*\*\*540528-23-2P\*\*\* ,  
 1-(5-Carboxypentyl)-2-[(E)-2-(6-diethylaminobenzofuran-2-yl)vinyl]-3,  
 3-dimethyl-5-sulfonato-3H-indolium betaine 811785-91-8P,  
 4-[7-[(5-Carboxypentyl)ethylamino]-2-oxo-2H-chromen-3-yl]-1-(3-pro  
 pylsulfonato)pyridinium betaine 811785-95-2P, 1-(5-Carboxypentyl)-4-[5,  
 7, 7-trimethyl-2-oxo-8-(3 propylsulfonato)-7, 8-dihydro-2H-1-oxa-8-aza-  
 anthracene-3-yl] pyridinium betaine 811785-97-4P, 2-[7-[(5-  
 Carboxypentyl)ethylamino]-2-oxo-2H-chromen-3-yl]-1-(3-pro  
 pylsulfonato)pyridinium betaine 811785-99-6P, 3-(3-Carboxypropyl)-2-[4-  
 (7-diethylamino-4-hydroxy-2-oxo-2H-chromen-3-yl)-buta-1,3-dienyl]-3-methyl-  
 5-sulfonato-1-(3 propylsulfonato)-3H-indolium sodium salt 811786-00-2P,  
 1-(5-Carboxypentyl)-2-[4-(7-diethylamino-4-hydroxy-2-oxo-2H-chromen-3-  
 yl)buta-1, 3-dienyl]-3,3-dimethyl-5-sulfonato-3H-indolium betaine  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (prodn. of fluorescent dyes (fluorophores) based on polymethines for  
 use in \*\*\*optical\*\*\* measurement)  
 IT 811785-89-4, 6-[Ethyl-(4-formyl-3-hydroxyphenyl)amino]-1-hexane acid  
 811785-96-3, N-(3-Propylsulfonato)-2-acetonitrile pyridinium betaine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (prodn. of fluorescent dyes (fluorophores) based on polymethines for  
 use in \*\*\*optical\*\*\* measurement)  
 IT 57597-64-5, 7-Diethylamino-2-oxo-2H-chromen-3-carbaldehyde 64369-55-7,  
 7-Diethylamino-4-hydroxy-2-oxo-2H-chromene 95042-28-7,  
 1-(5-Carboxypentyl)-4-methyl-chinolinium bromide 126174-13-8,  
 6-Diethylaminobenzofuran-2-carbaldehyde 142730-49-2,  
 7-Diethylamino-4-(4-morpholino)-2-oxo-2H-chromene-3-carbaldehyde  
 252358-62-6, 1-(5-Carboxypentyl)-3,3-dimethyl-2-(4-phenylaminobuta-1,3-  
 dienyl)-5-sulfonato-3H-indolium betaine 360772-42-5,  
 1-(5-Carboxypentyl)-4-methylpyridinium bromide 360772-43-6,  
 1-(5-Carboxypentyl)-2-methylpyridinium bromide 375395-98-5,  
 1-(5-Carboxypentyl)-4-methyl-6-sulfonatochinolinium betaine 540528-24-3,  
 1-(5-Carboxypentyl)-2-methyl-5-sulfonato-pyridinium betaine 540528-25-4,  
 Sodium 3-[ethyl-(3-formyl-2-oxo-2H-chromen-7-yl)-aminopropane-1-sulfonate  
 540528-26-5, 1-(5-Carboxypentyl)-3-sulfonato-4-methylpyridinium betaine  
 540528-27-6, 1-(5-Carboxypentyl)-3,3-dimethyl-2-((E)-2-phenylamino-vinyl)-  
 5-sulfonato-3H-indolium betaine 811785-88-3, 1-(5-Carboxypentyl)-2,6-  
 dimethylchinolinium bromide 811785-90-7, 4-Ethoxycarbonylmethyl-1-(3-  
 propylsulfonato)pyridinium betaine 811785-92-9, Sodium  
 3-(6-formyl-7-hydroxy-2, 2, 4-trimethyl-2H-chinolin-1-yl)-1-  
 propanesulfonate 811785-94-1, N-(6-Carboxypentyl)-4-  
 ethoxycarbonylmethylpyridinium mesylate 811785-98-5, 3-(3-Ethoxycarbonyl  
 propyl)-3-methyl-2-(4-phenyl-amino-buta-1,3-dienyl)-5-sulfonato-1-(3-  
 propylsulfonato)-3H-indolium sodium salt  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (starting material; prodn. of fluorescent dyes (fluorophores) based on  
 polymethines for use in \*\*\*optical\*\*\* measurement)

L12 ANSWER 3 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:1036400 CAPLUS  
 DN 142:28134  
 ED Entered STN: 03 Dec 2004  
 TI Receptor-avid exogenous \*\*\*optical\*\*\* contrast and therapeutic agents  
 IN Achilefu, Samuel; Rajagopalan, Raghavan; Dorshow, Richard B.; Bugaj,  
 Joseph; Periasamy, Muthunadar P.  
 PA Mallinckrodt Inc., USA  
 SO U.S. Pat. Appl. Publ., 35 pp., Cont.-in-part of U.S. Ser. No. 864,011.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM A61K049-00  
 ICS C07K014-705  
 INCL 424009600; 530350000; 530409000  
 CC 63-5 (Pharmaceuticals)  
 Section cross-reference(s): 8, 9, 27  
 FAN.CNT 6

|    | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|----|---------------|------|----------|-----------------|----------|
| PI | US 2004241095 | A1   | 20041202 | US 2004-800531  | 20040315 |
|    | US 6395357    | B1   | 20020528 | US 2000-484322  | 20000118 |
|    | US 2002156117 | A1   | 20021024 | US 2001-864011  | 20010523 |
|    | US 6706254    | B2   | 20040316 |                 |          |
|    | WO 2005089813 | A2   | 20050929 | WO 2005-US7429  | 20050309 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

|      |                |    |          |                |          |
|------|----------------|----|----------|----------------|----------|
|      | US 2005281741  | A1 | 20051222 | US 2005-75792  | 20050309 |
|      | US 2005271592  | A1 | 20051208 | US 2005-146377 | 20050606 |
| PRAI | US 2000-484322 | A2 | 20000118 |                |          |
|      | US 2001-864011 | A2 | 20010523 |                |          |
|      | US 2004-800531 | A  | 20040315 |                |          |
|      | US 2005-75792  | A3 | 20050309 |                |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| US 2004241095 | ICM   | A61K049-00   |
|               | ICS   | C07K014-705  |
|               | INCL  | 424009600; 530350000; 530409000  |
|               | IPCI  | A61K0049-00 [ICM,7]; C07K0014-705 [ICS,7]  |
|               | NCL   | 424/009.600  |
|               | ECLA  | A61K041/00M4; A61K041/00W; A61K049/00P4F; C09B023/00D; C09B023/08                                      |
| US 6395357    | NCL   | 428/035.700; 428/035.400; 428/036.600; 428/036.700; 428/505.000; 428/515.000; 428/516.000; 428/520.000 |
|               | ECLA  | A61K041/00M4; A61K041/00W; A61K049/00P4F; C09B023/00D; C09B023/08                                      |
| US 2002156117 | IPCI  | A61K0031-405 [ICM,7]; C07D0043-02 [ICS,7]  |
|               | NCL   | 514/414.000  |
|               | ECLA  | A61K041/00M4; A61K041/00W; A61K049/00P4F; C09B023/00D; C09B023/08                                      |
| WO 2005089813 | IPCI  | A61K0049-00 [ICM,7]  |
|               | ECLA  | A61K049/00P4F  |
| US 2005281741 | IPCI  | A61K0051-00 [ICM,7]; A61K0049-00 [ICS,7]; C07K0014-47 [ICS,7]  |
|               | NCL   | 424/001.690; 424/009.600; 530/409.000; 534/011.000   |
| US 2005271592 | IPCI  | A61K0049-00 [ICM,7]; C07K0016-46 [ICS,7]; C07K0014-47 [ICS,7]; C07F0005-00 [ICS,7]                     |
|               | NCL   | 424/009.600; 530/391.100; 530/409.000; 536/017.400; 534/011.000  |

OS MARPAT 142:28134

AB Cyanine dye bioconjugates useful for diagnostic imaging and therapy are disclosed. The conjugates include several cyanine dyes with a variety of bis- and tetrakis (carboxylic acid) homologes. The compds. are be conjugated to bioactive peptides, carbohydrates, hormones, drugs, or other bioactive agents. The small size of the compds. allows more favorable delivery to tumor cells as compared to larger mol. wt. imaging agents. The various dyes are useful over the range of 350 to 1,300 nm, the exact range being dependent upon the particular dye. The use of a biocompatible org. solvent such as dimethylsulfoxide helps to maintain the fluorescence of the compds. The inventive compds. are useful for diagnostic imaging and therapy, in endoscopic applications for the detection of tumors and other abnormalities, for localized therapy, for photoacoustic tumor imaging, detection and therapy, and for sonofluorescence tumor imaging, detection and therapy.

ST indocyanine dye peptide conjugate prepn fluorescence imaging tumor

IT Imaging agents  
 (NMR contrast; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Pancreas, neoplasm  
 (acinar cell, adenocarcinoma; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Imaging agents  
 (acoustic; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Prostate gland, neoplasm  
 (carcinoma; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Drug delivery systems  
 (carriers; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Chelating agents  
 Drugs  
 Peptidomimetics  
 Radiopharmaceuticals  
 (conjugates; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Antibodies and Immunoglobulins  
 Glycopeptides  
 Hormones, animal, biological studies  
 Monosaccharides  
 Peptides, biological studies  
 Proteins  
 RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study);  
 USES (Uses)  
 (conjugates; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Pancreas, neoplasm  
 (duct cell adenocarcinoma; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Imaging  
 (fluorescent; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Antibodies and Immunoglobulins  
 RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study);  
 USES (Uses)  
 (fragments, conjugates; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Atherosclerosis  
 Thrombus  
 (imaging; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Drug delivery systems  
 (immunoconjugates; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Human  
 Imaging agents  
 Photodynamic therapy  
 Photosensitizers, pharmaceutical  
 Positron-emission tomography  
 Radiotherapy  
 Single-photon-emission computed tomography  
 Tomography  
 (indocyanine dye-peptide conjugates as tumor imaging agents)

IT Somatostatin receptors  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (indocyanine dye-peptide conjugates as tumor imaging agents)

IT Porphyrins  
 RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study);  
 USES (Uses)  
 (indocyanine dye-peptide conjugates as tumor imaging agents)

IT Drug delivery systems  
 (liposomes; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Drug delivery systems  
 (micelles; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Drug delivery systems  
 (microcapsules; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Drug delivery systems  
 (microparticles; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Carcinoma  
 (pancreatic acinar cell; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Carcinoma  
 (pancreatic ductal adenocarcinoma; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Alcohols, biological studies  
 RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study);  
 USES (Uses)  
 (polyhydric, solvents; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Carcinoma  
 (prostatic; indocyanine dye-peptide conjugates as tumor imaging agents)

IT Imaging agents  
(x-ray, contrast; indocyanine dye-peptide conjugates as tumor imaging agents)

IT 95837-47-1P 351439-57-1P 411241-13-9P 568584-80-5P 799296-12-1P  
\*\*\*799296-16-5DP\*\*\*, derivs.  
RL: DGN (Diagnostic use); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(indocyanine dye-peptide conjugates as tumor imaging agents)

IT 25679-24-7DP, cyanine dye conjugates 60482-94-2DP, 6-13-Neurotensin (cattle), cyanine dye conjugates 83150-76-9DP, cyanine dye conjugates 105466-87-3DP, cyanine dye conjugates 195825-84-4DP, cyanine dye conjugates 302794-43-0DP, cyanine dye conjugates 309916-88-9DP, cyanine dye conjugates 309916-89-0DP, cyanine dye conjugates 411241-16-2P, Cytate 411241-17-3P, Cytate 2 411241-20-8P, Cytate 4 434943-51-8P, Cytate 3  
RL: DGN (Diagnostic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(indocyanine dye-peptide conjugates as tumor imaging agents)

IT 108-94-1, Cyclohexanone, reactions 141-43-5, reactions 590-92-1, 3-Bromopropanoic acid 1497-49-0 2531-70-6 4224-70-8, 6-Bromohexanoic acid 5437-45-6 5608-83-3 16825-68-6, 1,1,2-Trimethylindole 28743-04-6, 2H-Pyran-3(4H)-one 29519-77-5 41532-84-7 309916-92-5 536723-20-3 568584-84-9 799296-14-3 799296-17-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(indocyanine dye-peptide conjugates as tumor imaging agents)

IT 51992-85-9P 61010-04-6P 146432-42-0P 351439-58-2P 351439-59-3P 351439-68-4P 411241-12-8P 568584-79-2P 799296-13-2P  
\*\*\*799296-15-4P\*\*\*  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(indocyanine dye-peptide conjugates as tumor imaging agents)

IT 56-81-5, Glycerol, biological studies 64-17-5, Ethanol, biological studies 67-63-0, Isopropanol, biological studies 67-68-5, Dimethyl sulfoxide, biological studies  
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(solvent; indocyanine dye-peptide conjugates as tumor imaging agents)

L12 ANSWER 4 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2004:905351 CAPLUS  
DN 141:362781  
ED Entered STN: 29 Oct 2004  
TI Light sensitive compounds for instant determination of organ function  
IN Achilefu, Samuel; Rajagopalan, Raghavan; Dorshow, Richard B.; Bugaj, Joseph E.; Jimenez, Hermo N.; Periasamy, Muthunadar P.  
PA Mallinckrodt Inc., USA  
SO U.S. Pat. Appl. Publ., 27 pp., Cont.-in-part of U.S. Ser. No. 688,942.  
CODEN: USXXCO  
DT Patent  
LA English  
IC ICM A61K049-00  
ICS A61K031-7056; A61K031-428; A61K031-423  
INCL 424009600; 514023000; 514080000; 514366000; 514375000; 514393000  
CC 9-14 (Biochemical Methods)  
Section cross-reference(s): 63  
FAN.CNT 2

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | US 2004213740  | A1   | 20041028 | US 2004-751232  | 20040102 |
|      | US 6673334     | B1   | 20040106 | US 2000-688942  | 20001016 |
| PRAI | US 2000-688942 | A2   | 20001016 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| US 2004213740 | ICM   | A61K049-00   |
|               | ICS   | A61K031-7056; A61K031-428; A61K031-423   |
|               | INCL  | 424009600; 514023000; 514080000; 514366000; 514375000; 514393000                       |
|               | IPCI  | A61K0049-00 [ICM,7]; A61K0031-7056 [ICS,7]; A61K0031-428 [ICS,7]; A61K0031-423 [ICS,7] |
|               | NCL   | 424/009.600  |

ECLA A61K049/00P4F; C09B023/02  
 US 6673334 IPCI A61B0010-00 [ICM,7]; A61B0005-00 [ICS,7]; A61B0008-00 [ICS,7]  
 NCL 424/009.600; 424/001.110; 424/001.650; 424/009.100; 514/408.000; 514/410.000; 514/411.000  
 ECLA A61K049/00P4F; C09B023/02  
 OS MARPAT 141:362781  
 AB Highly hydrophilic indole and benzoindole derivs. that absorb and fluoresce in the visible region of light are disclosed. These compds. are useful for physiol. and organ function monitoring. Particularly, the mols. of the invention are useful for \*\*\*optical\*\*\* diagnosis of renal and cardiac diseases and for estn. of blood vol. in vivo.  
 ST light compd instant detn organ function  
 IT Fluorometry  
 Kidney  
 (light sensitive compds. for instant detn. of organ function)  
 IT 76578-90-0P 95837-47-1P 262283-52-3P 351439-57-1P 410525-49-4P  
 410525-58-5P 410525-59-6P 410525-60-9P \*\*\*410525-62-1P\*\*\*  
 757934-93-3P 777948-25-1P 777948-26-2P  
 RL: DGN (Diagnostic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (light sensitive compds. for instant detn. of organ function)  
 IT 563-80-4, 3-Methyl-2-butanone 590-92-1, 3-Bromopropanoic acid  
 1120-71-4, 1,3-Propanesultone 1497-49-0, Glutaconaldehyde dianil chloride 2531-70-6 6131-90-4, Sodium acetate trihydrate 41532-84-7  
 132557-72-3 184351-56-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (light sensitive compds. for instant detn. of organ function)  
 L12 ANSWER 5 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:892665 CAPLUS  
 DN 143:39891  
 ED Entered STN: 27 Oct 2004  
 TI Novel Oxidative Self-Anchoring Fluorescent Substrates for the Histochemical Localization of Endogenous and Immunobound Peroxidase Activity  
 AU Krieg, Reimar; Halbhuber, Karl-Juergen  
 CS Institute of Anatomy II, Friedrich Schiller University Jena, Jena, D-07743, Germany  
 SO Journal of Molecular Histology (2004), 35(5), 471-487  
 CODEN: JMHOAO; ISSN: 1567-2379  
 PB Kluwer Academic Publishers  
 DT Journal  
 LA English  
 CC 7-1 (Enzymes)  
 Section cross-reference(s): 9  
 AB Some 2-(2-styryl)-benzothiazole derivs. have been synthesized as novel fluorescent substrates for the localization of peroxidase activity. Excellent localization, high staining sensitivity and exceptionally low background staining were achieved by optimizing the choice of substrate. Multiple step-by-step anchoring of enzymically-activated individual substrate mols. to surrounding nucleophiles, related to the catalyzed reporter deposition (CARD) technique, is discussed. In contrast to tyramine conjugates, as employed in the CARD technique, the sepn. between reporting and anchoring function is eliminated, thus yielding a new fluorochrome with altered fluorescence properties after enzymic crosslinking. (E)-2-(2-[4-hydroxyphenyl] vinyl)-3-ethyl-1,3-benzothiazolium iodide has been found to be the best substrate so far. This was demonstrated in histochem. applications for the localization of endogenous and immunobound peroxidase activity using fixed cryostat, paraffin or semi-thin Epon sections. The specific final reaction product is efficiently excitable over a wide spectrum from green to violet, providing an outstanding sensitive localization of sites of enzymic activity with high photo stability. In a comparative study with the Alexa Fluor 546-tyramine conjugate, endogenous and immunobound peroxidase activity was visualized and the results compared using an epi-fluorescence confocal \*\*\*laser\*\*\* scanning microscope. The novel substrate provided an improved specificity and very low background staining whereas the Alexa Fluor-tyramide exhibited a strong overall background staining. FITC-labeled secondary antibodies also yielded very low background staining but the staining was less specific compared with the biotin-based ABC amplification systems labeled with the selected substrate or the



Alexa-tyramide. In conclusion, multiple fluorochrome generation close to sites of peroxidase activity, by enzymic crosslinking of styrene-related substrates, is a promising alternative to the fluorochrome-labeled tyramine ('tyramide') deposition technique.

ST peroxidase fluorescence substrate histochem

IT Staining, biological

Stains, biological

(fluorescent; novel oxidative self-anchoring fluorescent substrates for histochem. localization of endogenous and immunobound peroxidase activity)

IT Fluorescence

Fluorescent substances

(novel oxidative self-anchoring fluorescent substrates for histochem. localization of endogenous and immunobound peroxidase activity)

IT 9003-99-0, Peroxidase

RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)

(novel oxidative self-anchoring fluorescent substrates for histochem. localization of endogenous and immunobound peroxidase activity)

IT 62-31-7, Dopamine hydrochloride 853326-50-8, Alexa Fluor 546 tyramide

RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)

(novel oxidative self-anchoring fluorescent substrates for histochem. localization of endogenous and immunobound peroxidase activity)

IT 36232-80-1P 852335-79-6P 852335-80-9P 852335-81-0P 852335-82-1P

852335-83-2P 852335-84-3P 852335-85-4P 852335-86-5P 852335-87-6P

852335-90-1P 852335-91-2P 852335-92-3P 852335-93-4P 852335-94-5P

852335-95-6P 852335-96-7P 852335-97-8P \*\*\*852335-98-9P\*\*\*

\*\*\*852335-99-0P\*\*\* 852336-00-6P

RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation)

(novel oxidative self-anchoring fluorescent substrates for histochem. localization of endogenous and immunobound peroxidase activity)

IT 51-67-2, Tyramine 86-51-1 90-02-8, reactions 95-01-2 97-51-8

100-83-4 121-33-5 123-08-0, 4-Hydroxybenzaldehyde 139-85-5

148-53-8 708-06-5 872-85-5, 4-Pyridinecarboxaldehyde 1003-29-8,

1H-Pyrrole-2-carboxaldehyde 1194-98-5 1606-67-3, 1-Aminopyrene

1620-98-0 3011-34-5 3029-19-4, Pyrene-1-carbaldehyde 3119-93-5,

3-Ethyl-2-methylbenzothiazolium iodide 17754-90-4 24677-78-9

26153-38-8 42454-06-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(novel oxidative self-anchoring fluorescent substrates for histochem. localization of endogenous and immunobound peroxidase activity)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L12 ANSWER 6 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:654586 CAPLUS  
 DN 142:40073  
 ED Entered STN: 13 Aug 2004  
 TI Morphology transformations in solutions: dynamic supramolecular aggregates  
 AU Yao, Hiroshi  
 CS Graduate School of Material Science, University of Hyogo, Ako-gun, Hyogo,  
 678-1297, Japan  
 SO Annual Reports on the Progress of Chemistry, Section C: Physical Chemistry  
 (2004), 100, 99-148  
 CODEN: ACPCDW; ISSN: 0260-1826  
 PB Royal Society of Chemistry  
 DT Journal  
 LA English  
 CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
 Sensitizers)  
 Section cross-reference(s): 73  
 AB The author discussed his research on direct observation and control of  
 5,5'-dichloro-3,3'-bis(3-sulfopropyl)thiacyanine sodium salt morphol.  
 transformations of "soft" mesoscopic J-aggregates in soln. phases in terms  
 of their distinctive mol. ordering and prominent \*\*\*optical\*\*\*  
 properties. Characteristic morphologies or structures of the aggregate  
 were clarified in detail. The study on the nanoscopic/mesoscopic morphol.  
 of such mol. assemblies can be significant in relation to future supramol.  
 engineering that aims to obtain different shapes of a compd. with  
 differing useful properties.  
 ST cyanine dye morphol transformation dynamic supramol J aggregate  
 IT Sound and Ultrasound  
 (in control of morphol. transformations in solns. of thiacyanine dye  
 J-aggregates)  
 IT Fluorescence  
 Fluorescence microscopy  
 UV and visible spectra  
 (in morphol. transformations in solns. of thiacyanine dye J-aggregates)  
 IT J-aggregates  
 (morphol. transformations in solns. of thiacyanine dye J-aggregates)  
 IT \*\*\*807630-33-7\*\*\*  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)  
 (dye; morphol. transformations in solns. of thiacyanine dye  
 J-aggregates)

RE.CNT 87 THERE ARE 87 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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TI \*\*\*Optical\*\*\* filter for \*\*\*optical\*\*\* imaging devices  
IN Kato, Eiichi  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 50 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM G02B005-22  
ICS C09K003-00; C09B023-00  
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 47

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2004069759  | A2   | 20040304 | JP 2002-224896  | 20020801 |
| PRAI | JP 2002-224896 |      | 20020801 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| JP 2004069759 | ICM   | G02B005-22   |
|               | ICS   | C09K003-00; C09B023-00   |
|               | IPCI  | G02B0005-22 [ICM,7]; C09K0003-00 [ICS,7]; C09B0023-00 [ICS,7]  |
|               | FTERM | 2H048/CA04; 2H048/CA12; 2H048/CA19; 4H056/CA01;<br>4H056/CA05; 4H056/CB01; 4H056/CB06; 4H056/CC02;<br>4H056/CC08; 4H056/CE03; 4H056/CE06; 4H056/CE07;<br>4H056/DD03; 4H056/DD06; 4H056/DD11; 4H056/DD16;<br>4H056/DD19; 4H056/DD30; 4H056/FA05 |

OS MARPAT 140:243665

GI

/ Structure 11 in file .gra /

AB The title filter has a near IR-absorbing filter layer on a transparent support, wherein the filter layer contains dye I or II(Q1 = 5-6 membered heterocyclic ring or deriv.; R = aliph. group; R2 = H, alkyl; Z = O, Se, Te; Q2 = pyrylium ion residue; Y1-2 = H, aliph.; arom., cyano, etc.; L = polymethine; p, q = 0, 1; A- = counter anion; n = 1-5 integer; B+ = onium cation; m = 1-4 integer). The \*\*\*optical\*\*\* filter is chem. durable and highly light-resistant.

ST \*\*\*optical\*\*\* filter imaging device dye

IT \*\*\*Optical\*\*\* filters  
(near-IR; \*\*\*optical\*\*\* filter for \*\*\*optical\*\*\* imaging devices)

IT \*\*\*Optical\*\*\* imaging devices

( \*\*\*optical\*\*\* filter for \*\*\*optical\*\*\* imaging devices)

IT 602319-44-8 602319-45-9 602319-47-1 602319-55-1 602319-56-2

602319-64-2 602319-74-4 602319-81-3 666848-80-2 666848-85-7

\*\*\*666848-87-9\*\*\* \*\*\*666848-89-1\*\*\* 666848-92-6

RL: TEM (Technical or engineered material use); USES (Uses)

(dye for \*\*\*optical\*\*\* filters)

L12 ANSWER 8 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:180402 CAPLUS

DN 140:225913

ED Entered STN: 05 Mar 2004

TI \*\*\*Optical\*\*\* filter for \*\*\*optical\*\*\* imaging devices

IN Kato, Eiichi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 45 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G02B005-22

ICS C09K003-00; C09B023-00

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

Section cross-reference(s): 41, 47

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2004069758  | A2   | 20040304 | JP 2002-224895  | 20020801 |
| PRAI | JP 2002-224895 |      | 20020801 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| JP 2004069758 | ICM   | G02B005-22   |
|               | ICS   | C09K003-00; C09B023-00   |
|               | IPCI  | G02B0005-22 [ICM,7]; C09K0003-00 [ICS,7]; C09B0023-00 [ICS,7]  |
|               | FTERM | 2H048/CA04; 2H048/CA12; 2H048/CA19; 4H056/CA01; 4H056/CA05; 4H056/CB01; 4H056/CB06; 4H056/CC02; 4H056/CC08; 4H056/CE03; 4H056/DD03; 4H056/DD04; 4H056/DD06; 4H056/DD19; 4H056/DD30; 4H056/FA05 |

OS MARPAT 140:225913  
GI

/ Structure 12 in file .gra /

AB The title filter has a near IR-absorbing filter layer on a transparent support, wherein the filter layer contains dye I or II( A1 = residue of cyclic group; A2 = O, S, Se, etc.; L = polymethine; R1-2 = aliph. group; Z1-2 = benzene ring, condensed arom. ring; X- = counter ion; B+ = onium cation; m = 1-4 integer). The \*\*\*optical\*\*\* filter is chem. durable and highly light-resistant.

ST \*\*\*optical\*\*\* filter imaging device dye

IT \*\*\*Optical\*\*\* filters  
(near-IR; \*\*\*optical\*\*\* filter for \*\*\*optical\*\*\* imaging devices)

IT \*\*\*Optical\*\*\* imaging devices  
( \*\*\*optical\*\*\* filter for \*\*\*optical\*\*\* imaging devices)

IT 666753-51-1  
RL: TEM (Technical or engineered material use); USES (Uses)  
(crrcdye for \*\*\*optical\*\*\* filters)

IT 666753-48-6 666753-50-0 666753-52-2 666753-54-4 \*\*\*666753-56-6\*\*\*  
666753-58-8 666753-60-2 666753-67-9 666753-69-1  
RL: TEM (Technical or engineered material use); USES (Uses)  
(dye for \*\*\*optical\*\*\* filters)

L12 ANSWER 9 OF 111. CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:180035 CAPLUS

DN 140:243664

ED Entered STN: 05 Mar 2004

TI Cellulose acylate films with excellent transparency, tear strength, and weather resistance, their manufacture, and \*\*\*optical\*\*\* films, liquid crystal displays, and silver halide photographic materials using them

IN Kato, Eiichi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 52 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08J005-18

ICS B29C041-28; B29C041-50; C08F002-44; C08F251-02; G02B005-30;  
G02F001-1335; G03C001-795; B29K001-00; B29L007-00; C08L001-10

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 73

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2004067816  | A2   | 20040304 | JP 2002-227579  | 20020805 |
| PRAI | JP 2002-227579 |      | 20020805 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| JP 2004067816 | ICM   | C08J005-18   |
|               | ICS   | B29C041-28; B29C041-50; C08F002-44; C08F251-02; G02B005-30; G02F001-1335; G03C001-795; B29K001-00; |

B29L007-00; C08L001-10

IPCI C08J0005-18 [ICM,7]; B29C0041-28 [ICS,7]; B29C0041-50 [ICS,7]; C08F0002-44 [ICS,7]; C08F0251-02 [ICS,7]; G02B0005-30 [ICS,7]; G02F0001-1335 [ICS,7]; G03C0001-795 [ICS,7]; B29K0001-00 [ICS,7]; B29L0007-00 [ICS,7]; C08L0001-10 [ICS,7]

FTERM 2H023/FA01; 2H023/FA13; 2H049/BA02; 2H049/BA06; 2H049/BA25; 2H049/BA27; 2H049/BB33; 2H049/BB43; 2H049/BB49; 2H049/BB62; 2H049/BC03; 2H049/BC09; 2H049/BC14; 2H049/BC22; 2H091/FA07X; 2H091/FA07Z; 2H091/FA08X; 2H091/FA08Z; 2H091/FA11X; 2H091/FA11Z; 2H091/FA37X; 2H091/FA37Z; 2H091/FB02; 2H091/FC01; 2H091/FC07; 2H091/FC29; 2H091/LA02; 2H091/LA04; 2H091/LA30; 4F071/AA09; 4F071/AA31; 4F071/AA32; 4F071/AA33; 4F071/AA35; 4F071/AA77; 4F071/AH16; 4F071/AH19; 4F071/BA02; 4F071/BB02; 4F071/BB12; 4F071/BC01; 4F071/BC02; 4F205/AA01; 4F205/AB04; 4F205/AB09; 4F205/AB14; 4F205/AB19; 4F205/AC05; 4F205/AG01; 4F205/AH73; 4F205/AK04; 4F205/GA07; 4F205/GB02; 4F205/GC07; 4F205/GE03; 4F205/GE25; 4F205/GF01; 4F205/GF03; 4F205/GF24; 4F205/GN30; 4J011/PA53; 4J011/PB08; 4J011/PB21; 4J011/PC02; 4J011/PC08; 4J026/AA02; 4J026/BA27; 4J026/BB01; 4J026/CA08; 4J026/DA11; 4J026/DB02; 4J026/DB08; 4J026/DB15; 4J026/DB32; 4J026/DB36; 4J026/FA05; 4J026/GA06

AB The films are manufd. by casting cellulose acylate compns. contg. polymerizable monomers, photothermal converting agents, and thermal polymn. initiators and irradiating them with IR.

ST cellulose acylate cast film strength photog; \*\*\*optical\*\*\* film cellulose photothermal converter LCD; polarizer cellulose methyl methacrylate IR irradiation

IT Liquid crystal displays  
\*\*\*Optical\*\*\* films  
Photographic films  
Plastic films  
Polarizers  
Transparent films  
(manuf. of cellulose acylate cast films with good transparency, tear strength, and weather resistance for \*\*\*optical\*\*\* use)

IT Epoxy resins, preparation  
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manuf. of cellulose acylate cast films with good transparency, tear strength, and weather resistance for \*\*\*optical\*\*\* use)

IT Polymerization catalysts  
(photopolymn.; manuf. of cellulose acylate cast films with good transparency, tear strength, and weather resistance for \*\*\*optical\*\*\* use)

IT \*\*\*Optical\*\*\* instruments  
(retarders; manuf. of cellulose acylate cast films with good transparency, tear strength, and weather resistance for \*\*\*optical\*\*\* use)

IT 2495-35-4DP, polymers 9011-14-7P, Methyl methacrylate polymer 16868-15-8DP, polymers 40756-50-1P 59620-20-1DP, polymers 72355-89-6P 99732-63-5P 119347-00-1DP, polymers 128611-70-1DP, polymers 151543-64-5P, Poly(1,4-cyclohexanedimethanol divinyl ether) 658059-80-4P 658059-82-6P 658059-84-8P 658059-86-0P 658059-89-3P 658059-91-7P 658059-97-3P 658060-00-5P 658060-03-8P 658060-06-1P 658060-09-4P 658060-36-7P 658060-38-9DP, polymers 666837-41-8P 666837-45-2P 666837-46-3P 666837-47-4P 666837-48-5P 666837-49-6P 666837-50-9P 666837-51-0P 666837-52-1P 666837-53-2P 666837-56-5DP, reaction products with monoepoxide 666837-57-6DP, reaction products with epoxy resin 666841-65-2P 666841-66-3P  
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manuf. of cellulose acylate cast films with good transparency, tear strength, and weather resistance for \*\*\*optical\*\*\* use)

IT 9004-34-6D, Cellulose, acylate 9012-09-3, Cellulose triacetate  
RL: DEV (Device component use); POF (Polymer in formulation); TEM

(Technical or engineered material use); USES (Uses)  
 (manuf. of cellulose acylate cast films with good transparency, tear strength, and weather resistance for \*\*\*optical\*\*\* use)  
 IT 3584-23-4 10409-07-1 15522-59-5 52754-92-4, Diphenyliodonium hexafluoroantimonate 58162-30-4 62051-09-6 71449-78-0 121458-82-0 157692-55-2 191043-97-7 666837-39-4 666837-42-9  
 RL: CAT (Catalyst use); USES (Uses)  
 (photopolymer. initiator; manuf. of cellulose acylate cast films with good transparency, tear strength, and weather resistance for \*\*\*optical\*\*\* use)  
 IT 93072-15-2 102258-16-2 666837-30-5 666837-32-7 666837-34-9 666837-35-0 666837-37-2 \*\*\*666837-44-1\*\*\* 666837-55-4  
 RL: CAT (Catalyst use); USES (Uses)  
 (photothermal converter; manuf. of cellulose acylate cast films with good transparency, tear strength, and weather resistance for \*\*\*optical\*\*\* use)  
 IT 9002-89-5, Poly(vinyl alcohol)  
 RL: DEV (Device component use); USES (Uses)  
 (polarizer; manuf. of cellulose acylate cast films with good transparency, tear strength, and weather resistance for \*\*\*optical\*\*\* use)

L12 ANSWER 10 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2003:1007251 CAPLUS  
 DN 140:50342  
 ED Entered STN: 26 Dec 2003  
 TI Materials for \*\*\*optical\*\*\* medium copy-protection transiently reacting to a reader beam of \*\*\*optical\*\*\* disk  
 IN Selinfreund, Richard H.; Gerber, Scott; Goyette, Donald R.; Colandreo, Michael; Vig, Rakesh; Li, Junzhong; Cook, Ewell; Turner, Tomeko  
 PA Verification Technologies, Inc., USA  
 SO PCT Int. Appl., 51 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM G11B007-00  
 ICS B29D011-00  
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 41

FAN.CNT 3

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| WO 2003107331   | A1   | 20031224 | WO 2003-US11975 | 20030417 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW<br>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG |      |          |                 |          |
| CA 2489439  | AA   | 20031224 | CA 2003-2489439 | 20030417 |
| BR 2003011927   | A    | 20050405 | BR 2003-11927   | 20030417 |
| EP 1532623  | A1   | 20050525 | EP 2003-721750  | 20030417 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK   |      |          |                 |          |
| JP 2005530285   | T2   | 20051006 | JP 2004-514063  | 20030417 |
| CA 2503684  | AA   | 20040408 | CA 2003-2503684 | 20030926 |
| WO 2004029672   | A2   | 20040408 | WO 2003-US30897 | 20030926 |
| WO 2004029672   | A3   | 20050127 |                 |          |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW<br>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,  |      |          |                 |          |

BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 US 2004121262 A1 20040624 US 2003-672052 20030926  
 EP 1551817 A2 20050713 EP 2003-759592 20030926  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK  
 PRAI US 2002-389223P P 20020617  
 US 2002-390647P P 20020621  
 US 2002-391773P P 20020625  
 US 2002-391857P P 20020626  
 US 2002-393397P P 20020702  
 US 2002-413934P P 20020926  
 WO 2003-US11975 W 20030417  
 WO 2003-US30897 W 20030926

# CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| WO 2003107331 | ICM   | G11B007-00   |
|               | ICS   | B29D011-00   |
|               | IPCI  | G11B0007-00 [ICM,7]; B29D0011-00 [ICS,7]   |
| CA 2489439    | IPCI  | G11B0007-00 [ICM,7]; B29D0011-00 [ICS,7]   |
| BR 2003011927 | IPCI  | G11B0007-00 [ICM,7]; B29D0011-00 [ICS,7]   |
| EP 1532623    | IPCI  | G11B0007-00 [ICM,7]; B29D0011-00 [ICS,7]   |
| JP 2005530285 | IPCI  | G11B0007-24 [ICM,7]; C07D0279-18 [ICS,7]; G11B0007-005 [ICS,7]; G11B0007-007 [ICS,7]   |
|               | FTERM | 4C036/AA02; 4C036/AA07; 4C036/AA08; 5D029/JB47; 5D029/MA04; 5D029/MA18; 5D029/MA31; 5D090/AA01; 5D090/BB02; 5D090/CC18; 5D090/FF09; 5D090/FF49; 5D090/GG34   |
| CA 2503684    | IPCI  | C07D0279-18 [ICM,7]; G11B0007-24 [ICS,7]   |
| WO 2004029672 | IPCI  | C07D0279-18 [ICM,7]; G11B0007-24 [ICS,7]   |
| US 2004121262 | IPCI  | G11B0007-24 [ICM,7]; C07D0279-18 [ICS,7]   |
|               | NCL   | 430/270.150  |
| EP 1551817    | IPCI  | C07D0279-18 [ICM,7]; G11B0007-24 [ICS,7]   |
| AB            |       | The invention relates to a method and system for providing copy-protected ***optical*** medium using transient ***optical*** state change security materials capable of changing ***optical*** state and software code to detect such change in ***optical*** state. The material protects stored ***information*** from copied by a conventional ***optical*** medium reader. |
| ST            |       | ***optical*** copy protection reader disk  |
| IT            |       | ***Optical*** disks  |
|               |       | (copy-protected; materials for ***optical*** medium copy-protection transiently reacting to a reader beam of ***optical*** disk)   |
| IT            |       | Dyes   |
|               |       | (materials for ***optical*** medium copy-protection transiently reacting to a reader beam of ***optical*** disk)   |
| IT            |       | 74-88-4, Methyl iodide, reactions 92-84-2, Phenothiazine 124-40-3, Dimethylamine, reactions 539-44-6 563-80-4 7553-56-2, Iodine, reactions   |
|               |       | RL: RCT (Reactant); RACT (Reactant or reagent)   |
|               |       | (copy protection dye of materials for ***optical*** medium)  |
| IT            |       | 109-77-3P, Malononitrile 261-89-2DP, Phenothiazin-5-ium, tetraiodide salt 3484-22-8P 636602-79-4P 636602-80-7P   |
|               |       | RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  |
|               |       | (copy protection dye of materials for ***optical*** medium)  |
| IT            |       | 86879-79-0P  |
|               |       | RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)   |
|               |       | (copy protection dye of materials for ***optical*** medium)  |
| IT            |       | 23168-55-0 96692-25-0 ***144280-08-0*** 636602-81-8 636602-82-9 636602-83-0 636602-84-1  |
|               |       | RL: TEM (Technical or engineered material use); USES (Uses)  |
|               |       | (copy protection dye of materials for ***optical*** medium)  |

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Smith; US 5815484 A 1998

L12 ANSWER 11 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:950587 CAPLUS

DN 140:21316

ED Entered STN: 07 Dec 2003



TI \*\*\*Optical\*\*\* recording material  
IN Oya, Keiji; Tomita, Atsurou; Yano, Toru  
PA Asahi Denka Kogyo Kabushiki Kaisha, Japan  
SO U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 630,610,  
abandoned.  
CODEN: USXXCO  
DT Patent  
LA English  
IC ICM G11B007-24  
INCL 430270140; 430270200  
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 2

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | US 2003224293  | A1   | 20031204 | US 2003-367726  | 20030219 |
|      | JP 2001047740  | A2   | 20010220 | JP 1999-221664  | 19990804 |
| PRAI | JP 1999-221664 | A    | 19990804 |                 |          |
|      | US 2000-630610 | B2   | 20000802 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|---------------|-------|---|
| US 2003224293 | ICM   | G11B007-24  |
|               | INCL  | 430270140; 430270200  |
|               | IPCI  | G11B0007-24 [ICM,7]   |
|               | NCL   | 430/270.140   |
|               | ECLA  | G11B007/247; G11B007/248  |
| JP 2001047740 | IPCI  | B41M0005-26 [ICM,7]; C07F0017-02 [ICS,7]; C09B0023-00<br>[ICS,7]; G11B0007-24 [ICS,7] |

OS MARPAT 140:21316

GI

/ Structure 13 in file .gra /

AB An \*\*\*optical\*\*\* recording medium comprises a substrate having formed thereon a thin film comprising an org. compd. dye that can form pits when irradiated with a semiconductor \*\*\*laser\*\*\* beam and a compd. represented by formula I (X = metallocene group; ring A represents a specific heterocyclic ring with the metallocene group X bonded to the 2-position; An m- represents an m-valent anion; m = 1, 2; p represents a coeff. for maintaining the charges neutral) as a recording layer.

ST \*\*\*optical\*\*\* recording material

IT \*\*\*Optical\*\*\* recording materials

( \*\*\*optical\*\*\* recording material)

IT 60-12-8, Benzeneethanol 68-12-2, Dimethylformamide, reactions 98-09-9, Benzenesulfonyl chloride 100-16-3, 4-Nitrophenylhydrazine 107-08-4, Propyl iodide 122-99-6, 2-Phenoxyethanol 563-80-4, 3-Methyl-2-butanone 1640-39-7 2243-57-4, ..beta..-Naphthylhydrazine 3471-32-7, 4-Methoxyphenylhydrazine 4119-41-9, 3-Phenylpropyl iodide 12093-10-6, Ferrocenecarbaldehyde 19763-90-7, 3,4-Dichlorophenylhydrazine hydrochloride 326801-74-5

RL: RCT (Reactant); RACT (Reactant or reagent)

( \*\*\*optical\*\*\* recording material)

IT 541-28-6P, Isoamyl iodide 3484-22-8P, 2,3,3-Trimethyl-5-nitroindolenine 31241-19-7P, 2,3,3-Trimethyl-5-methoxyindolenine 32376-95-7P, Phenethyl benzenesulfonate 41532-84-7P 124004-35-9P, Phenoxyethyl benzenesulfonate 136684-81-6P 631920-18-8P 631920-19-9P 631920-20-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

( \*\*\*optical\*\*\* recording material)

IT \*\*\*326803-23-0P\*\*\* \*\*\*326803-24-1P\*\*\* \*\*\*326803-26-3P\*\*\*  
\*\*\*326803-29-6P\*\*\* \*\*\*326803-30-9P\*\*\*

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

( \*\*\*optical\*\*\* recording material contg.)

L12 ANSWER 12 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2003:853319 CAPLUS  
DN 139:371900

ED Entered STN: 31 Oct 2003  
TI Presensitized lithographic plates suited for computer-to-plate direct  
platemaking using IR \*\*\*lasers\*\*\*  
IN Kato, Eiichi; Nakamura, Ippei  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 44 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM G03F007-004  
ICS G03F007-00  
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 41

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2003307844  | A2   | 20031031 | JP 2002-115100  | 20020417 |
| PRAI | JP 2002-115100 |      | 20020417 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES        |
|---------------|-------|---|
| JP 2003307844 | ICM   | G03F007-004                               |
|               | ICS   | G03F007-00                                |
|               | IPCI  | G03F0007-004 [ICM,7]; G03F0007-00 [ICS,7] |

OS MARPAT 139:371900  
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The plates have, on hydrophilic supports, photoimaging layers contg.  
IR-absorbing dye (i.e., photothermal converters) I and/or II [R1, R2 =  
aliph. group, aryl, heterocycle; R3 = H, halo, monovalent org. group; B =  
N-, O-, S-, Se-, and/or Te-contg. 5-6-membered (condensed) heterocycle;  
L1-L3 = methine; p = 1-3 integer; q = 0-4 integer; A = counter anion; m =  
0, 1]. The plates show high photosensitivity and good surface strength of  
image parts.

ST presensitized lithog plate IR absorbing dye; oxyindolizine IR absorber PS  
plate photosensitivity

IT Dyes  
(IR-absorbing, oxyindolizine-based; PS plates contg. oxyindolizine dyes  
and showing high photosensitivity and good strength of printing face)

IT Lithographic plates  
(presensitized; PS plates contg. oxyindolizine dyes and showing high  
photosensitivity and good strength of printing face)

IT 121573-00-0 620160-31-8 620160-33-0 620160-35-2 620160-36-3  
620160-37-4 620160-38-5 620160-39-6 620160-40-9 620160-42-1  
620160-45-4 620160-46-5 620160-48-7 620160-50-1 620160-51-2  
620160-53-4 \*\*\*620160-54-5\*\*\* \*\*\*620160-55-6\*\*\* 620160-56-7  
620160-58-9 620160-60-3 \*\*\*620160-61-4\*\*\* 620160-63-6  
620160-64-7 620160-65-8 620160-66-9 620160-68-1 620160-70-5  
620160-71-6 620160-72-7 620162-90-5 620162-91-6 620162-92-7  
620162-94-9 620162-95-0

RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES  
(Uses)

(IR-absorbing dyes; PS plates contg. oxyindolizine dyes and showing  
high photosensitivity and good strength of printing face)

L12 ANSWER 13 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:853318 CAPLUS

DN 139:371899

ED Entered STN: 31 Oct 2003

TI Presensitized lithographic plates for computer-to-plate direct platemaking  
employing IR \*\*\*lasers\*\*\*

IN Kato, Eiichi; Nakamura, Ippei

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 45 pp.

CODEN: JKXXAF

DT Patent

LA Japanese  
IC ICM G03F007-004  
ICS G03F007-00  
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 41

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2003307843  | A2   | 20031031 | JP 2002-115099  | 20020417 |
| PRAI | JP 2002-115099 |      | 20020417 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES        |
|---------------|-------|---|
| JP 2003307843 | ICM   | G03F007-004                               |
|               | ICS   | G03F007-00                                |
|               | IPCI  | G03F0007-004 [ICM,7]; G03F0007-00 [ICS,7] |

OS MARPAT 139:371899

GI

/ Structure 14 in file .gra /

AB The plates have photoimaging layers contg. IR-absorbing dye  
[D:(L1)lB]m+(A-)m [D = azaheterocycle D1-D3 (R1-R16 = H, halo, cyano, OH,  
carboxy, sulfo, thiol, etc.; Q1 = benzene, naphthalene; R21, R22 = H,  
aliph. group, aryl, acyl; R23, R24 = alkyl, aryl; R31-R34 = H, halo,  
aliph. group, aryl); B = N-, O-, S-, Se-, Te-contg. 5-6-membered  
(condensed) heterocycle or azulenyl; L = trivalent bridging group  
including 3, 5, or 7 methine; l = 1-9 integer; A = counter anion; m = 1-4  
integer]. The plates show high IR sensitivity and good surface strength  
of image parts.

ST presensitized lithog plate IR absorbing methine dye; IR sensitivity  
photothermal converting presensitized lithog

IT Dyes

(IR-absorbing, photothermal converters; presensitized lithog. plates  
contg. time-stable IR-absorbing dyes for CTP direct platemaking  
employing IR \*\*\*lasers\*\*\* )

IT Lithographic plates

(presensitized; presensitized lithog. plates contg. time-stable  
IR-absorbing dyes for CTP direct platemaking employing IR  
\*\*\*lasers\*\*\* )

|    |             |             |                   |             |             |
|----|-------------|-------------|-------------------|-------------|-------------|
| IT | 620162-10-9 | 620162-12-1 | 620162-14-3       | 620162-16-5 | 620162-18-7 |
|    | 620162-20-1 | 620162-22-3 | 620162-24-5       | 620162-26-7 | 620162-27-8 |
|    | 620162-29-0 | 620162-30-3 | 620162-32-5       | 620162-33-6 | 620162-35-8 |
|    | 620162-36-9 | 620162-38-1 | 620162-41-6       | 620162-42-7 | 620162-44-9 |
|    | 620162-45-0 | 620162-46-1 | 620162-47-2       | 620162-48-3 | 620162-49-4 |
|    | 620162-50-7 | 620162-52-9 | 620162-54-1       | 620162-55-2 | 620162-57-4 |
|    | 620165-61-9 | 620165-63-1 | 620165-74-4       | 620165-76-6 | 620165-77-7 |
|    | 620165-79-9 | 620165-80-2 | ***620165-82-4*** |             |             |

RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES  
(Uses)

(photothermal converters; presensitized lithog. plates contg.  
time-stable IR-absorbing dyes for CTP direct platemaking employing IR  
\*\*\*lasers\*\*\* )

L12 ANSWER 14 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:735198 CAPLUS

DN 139:268004

ED Entered STN: 19 Sep 2003

TI Negative-working lithographic printing original plate for direct  
platemaking with infrared \*\*\*laser\*\*\* light

IN Taninaka, Hiromitsu; Nakamura, Ippei; Kato, Eiichi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 35 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-004

ICS B41N001-14; C09B023-00; C09B057-00; C09B069-02; C09B069-04;  
G03F007-00

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 41

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 2003262954 | A2   | 20030919 | JP 2002-67056   | 20020312 |
| PRAI | JP 2002-67056 |      | 20020312 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| JP 2003262954 | ICM   | G03F007-004  |
|               | ICS   | B41N001-14; C09B023-00; C09B057-00; C09B069-02;<br>C09B069-04; G03F007-00  |
|               | IPCI  | G03F0007-004 [ICM,7]; B41N0001-14 [ICS,7]; C09B0023-00<br>[ICS,7]; C09B0057-00 [ICS,7]; C09B0069-02 [ICS,7];<br>C09B0069-04 [ICS,7]; G03F0007-00 [ICS,7] |

OS MARPAT 139:268004

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The printing original plate has a neg.-working recording layer contg. an  
IR absorbing dye represented by I or II [Q1 = 5- or 6-membered  
heterocyclic group, at. group for formation of condensation ring including  
5- or 6-membered heterocyclic group; R1 = aliph. group; R2 = H, alkyl; Z =  
O, S, Se, Te; Q2 = at. group for formation of pyrylium ion structure; Y1,  
Y2 = H, aliph. group, arom. group, cyano, nitro, OR3, SR3 (R3 = aliph.  
group, arom. group); L = polymethine; p, q = 0, 1; A- = counter anion; n =  
1-5; B+ = onium cation; m = 1-3], a compd. which generates radicals or  
acids by heat, and a polymerizable compd. or crosslinking compd. The IR  
absorbing dye has long service life. The recording layer has high  
sensitivity and strength in image regions, and printing plates with high  
printability can be obtained.

ST neg lithog printing original plate direct platemaking IR \*\*\*laser\*\*\* ;  
IR absorbing dye neg lithog printing original plate

IT \*\*\*Optical\*\*\* materials  
(IR absorbers; neg.-working lithog. printing original plate contg. IR  
absorber with long service life for direct platemaking with IR  
\*\*\*laser\*\*\* light)

IT IR materials  
(absorbers; neg.-working lithog. printing original plate contg. IR  
absorber with long service life for direct platemaking with IR  
\*\*\*laser\*\*\* light)

IT Cyanine dyes  
Lithographic plates  
(neg.-working lithog. printing original plate contg. IR absorber with  
long service life for direct platemaking with IR \*\*\*laser\*\*\* light)

IT 602319-44-8 602319-45-9 602319-47-1 602319-49-3 602319-51-7  
602319-53-9 602319-55-1 602319-56-2 602319-57-3 602319-58-4  
602319-59-5 602319-61-9 602319-62-0 602319-64-2 602319-65-3  
602319-67-5 \*\*\*602319-69-7\*\*\* 602319-71-1 602319-72-2  
602319-73-3 602319-74-4 602319-75-5 602319-76-6 602319-77-7  
602319-78-8 602319-79-9 602319-80-2 602319-81-3 602319-82-4  
602319-83-5 602319-85-7 602319-87-9 602319-89-1 602319-91-5  
\*\*\*602319-93-7\*\*\* 602319-95-9 602319-97-1 602320-00-3  
602325-75-7 \*\*\*602325-77-9\*\*\* 603138-14-3 \*\*\*603138-15-4\*\*\*  
\*\*\*603138-16-5\*\*\*

RL: TEM (Technical or engineered material use); USES (Uses)  
(neg.-working lithog. printing original plate contg. IR absorber with  
long service life for direct platemaking with IR \*\*\*laser\*\*\* light)

L12 ANSWER 15 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2003:653410 CAPLUS  
DN 139:188111  
ED Entered STN: 22 Aug 2003  
TI Scratch-resistant polarizers having high and stable orientation of

dichroic dyes, their manufacture, and \*\*\*optical\*\*\* instruments therewith  
 IN Kobayashi, Toru; Murakami, Takashi  
 PA Konica Co., Japan  
 SO Jpn. Kokai Tokkyo Koho, 49 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G02B005-30  
 ICS C08J007-04; G02F001-1335; C08L001-12  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 38, 42, 74

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 2003232919 | A2   | 20030822 | JP 2002-30820   | 20020207 |
| PRAI | JP 2002-30820 |      | 20020207 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| JP 2003232919 | ICM   | G02B005-30   |
|               | ICS   | C08J007-04; G02F001-1335; C08L001-12   |
|               | IPCI  | G02B0005-30 [ICM,7]; C08J0007-04 [ICS,7]; G02F0001-1335 [ICS,7]; C08L0001-12 [ICS,7] |

AB Compns. contg. (non-)photoreactive dichroic dyes are continuously applied on transporting transparent film supports while being applied with high shear stress in the support transport direction and then coated/laminated with transparent resin compns./films for surface protection to afford polarizing plates in high throughput. The dye compns. may contain easy-to-align (non-)photoreactive compds. (e.g., liq. crystals) and/or photoreactive compds. \*\*\*Optical\*\*\* instruments composed of the plates and antireflective layers and other functional layers such as antiglare and/or antistatic layers are also claimed.

ST scratch resistant polarizer dichroic dye orientation stability; shear stress alignment coating polarizer manuf; LCD polarizer polarizer photoreactive dichroic dye coating

IT Ionene polymers  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (crosslinked, antistatic layers; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT Dyes  
 (dichroic; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT Coating process  
 Liquid crystal displays  
 Polarizers  
 Shear stress  
 (manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT Electric corona  
 (wettability improvement; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT 1332-29-2P, Tin oxide 7631-86-9P, Silica, uses 13463-67-7P, Titania, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (antireflective layers; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT 578716-37-7P  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (crosslinked, polarizing layers; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT 578716-25-3  
 RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (dimerized, polarizing layers; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT 578721-37-6  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT 578716-31-1P  
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (polarizing layers; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT 578716-19-5 578716-27-5 578716-28-6 578716-29-7 578716-38-8  
 578716-39-9 578716-40-2 578716-41-3  
 RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (polarizing layers; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT 992-59-6 36762-69-3 122135-66-4 578716-20-8 578716-21-9  
 578716-22-0 \*\*\*578716-26-4\*\*\* 578716-33-3 578716-35-5  
 578716-44-6 578721-34-3 578721-40-1  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (polarizing layers; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT 9004-39-1, Cellulose acetate propionate  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (protective films; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT 67653-78-5P, Dipentaerythritol hexaacrylate homopolymer  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (protective layers; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT 9035-69-2, Cellulose diacetate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (protective layers; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

IT 9012-09-3, Cellulose triacetate  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (supports; manuf. of scratch-resistant polarizing plates by coating method under high shear stress for LCD)

L12 ANSWER 16 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2003:560816 CAPLUS  
 DN 140:78503  
 ED Entered STN: 23 Jul 2003  
 TI Synthesis and \*\*\*optical\*\*\* recording properties of some novel styryl dyes for DVD-R  
 AU Lee, Chung-Chun; Hu, Andrew Teh  
 CS Department of Chemical Engineering, National Tsing Hua University, Hsin-Chu, Taiwan  
 SO Dyes and Pigments (2003), 59(1), 63-69  
 CODEN: DYPIDX; ISSN: 0143-7208  
 PB Elsevier Science Ltd.  
 DT Journal  
 LA English  
 CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)  
 Section cross-reference(s): 27, 73, 74  
 OS CASREACT 140:78503  
 AB The synthesis and spectral properties of styryl dyes having julolidinyl deriv. moieties at one side of the styryl dye structure are described. These dyes are designed to have different side groups with either carboxylate, ether, or sulfonate linkages on the julolidinyl ring. Differences in \*\*\*optical\*\*\*, thermal, and \*\*\*optical\*\*\* recording

properties between these dyes have been compared. The relationships between the side groups and \*\*\*optical\*\*\* /thermal properties of the dyes are discussed.

ST styryl julolidinyl dye prepn \*\*\*optical\*\*\* recording thermal stability  
 IT Thermal stability  
 UV and visible spectra  
 (of prepd. julolidinyl styryl dyes for \*\*\*optical\*\*\* recording)  
 IT Cyanine dyes  
 \*\*\*Optical\*\*\* recording materials  
 (prepn. and \*\*\*optical\*\*\* recording properties of styryl dyes)  
 IT Erasable \*\*\*optical\*\*\* disks  
 (prepn. of julolidinyl styryl dyes for)  
 IT \*\*\*639818-43-2P\*\*\* \*\*\*639818-44-3P\*\*\* \*\*\*639818-45-4P\*\*\*  
 \*\*\*639818-46-5P\*\*\*  
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (green dye; prepn. and \*\*\*optical\*\*\* recording properties of styryl dyes)  
 IT 20205-30-5P 115662-07-2P 115662-09-4P 115704-83-1P 639818-47-6P  
 639818-48-7P 639818-49-8P 639818-50-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (intermediate; prepn. and \*\*\*optical\*\*\* recording properties of styryl dyes)  
 IT 68-12-2, DMF; reactions 503-60-6, 1-Chloro-3-methyl-2-butene 542-69-8,  
 1-Iodobutane 591-27-5, 3-Aminophenol 1640-39-7, 2,3,3-Trimethylindolenine 7647-01-0, Hydrochloric acid, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (starting material; prepn. and \*\*\*optical\*\*\* recording properties of styryl dyes)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE

- (1) Gawinecki, R; Dyes and Pigments 2000, V45(2), P103 CAPLUS
- (2) Haidekker, M; Chemistry and Biology 2001, V8, P123 CAPLUS
- (3) Hendrickx, E; Journal of Chemical Physics 2000, V113(13), P5439 CAPLUS
- (4) Herbich, J; Chemical Physics Letters 1997, V273(1-2), P8
- (5) Horiguchi, E; Dyes and Pigments 2002, V53(1), P45 CAPLUS
- (6) Kasada, C; EP 1170339 2002 CAPLUS
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- (8) Lehmann, F; Dyes and Pigments 1995, V29(1), P85 CAPLUS
- (9) Li, Q; Dyes and Pigments 1998, V38(4), P211 CAPLUS
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- (14) Yoshiteru, T; JP 08339573 1996 CAPLUS

L12 ANSWER 17 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:466658 CAPLUS

DN 139:32890

ED Entered STN: 18 Jun 2003

TI Carbazolylvinyl dye protein stains

IN Yue, Stephen T.; Steinberg, Thomas H.; Patton, Wayne F.; Cheung, Ching-ying; Haugland, Richard P.

PA Molecular Probes, Inc., USA

SO U.S., 27 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM G01N033-48

ICS G01N033-52; G01N033-68

INCL 436086000; 436087000; 436088000; 436164000; 436166000; 436172000;  
 436175000; 436177000; 422061000; 546001000

CC 9-4 (Biochemical Methods)

Section cross-reference(s): 27, 28

FAN.CNT 1

|       | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|-------|----------------|------|----------|-----------------|----------|
|       | -----          | ---- | -----    | -----           | -----    |
| PI    | US 6579718     | B1   | 20030617 | US 2000-632927  | 20000804 |
| PRAI  | US 2000-632927 |      | 20000804 |                 |          |
| CLASS |                |      |          |                 |          |

| PATENT NO. | CLASS  | PATENT FAMILY CLASSIFICATION CODES  |
|------------|--|---|
| US 6579718 | ICM  | G01N033-48  |
|            | ICS  | G01N033-52; G01N033-68  |
|            | INCL   | 436086000; 436087000; 436088000; 436164000; 436166000; 436172000; 436175000; 436177000; 422061000; 546001000  |
|            | IPCI   | G01N0033-48 [ICM,7]; G01N0033-52 [ICS,7]; G01N0033-68 [ICS,7]   |
|            | NCL  | 436/086.000; 422/061.000; 436/087.000; 436/088.000; 436/164.000; 436/166.000; 436/172.000; 436/175.000; 436/177.000; 546/001.000; 546/184.000; 548/100.000; 548/122.000; 548/125.000; 548/126.000 |
|            | ECLA   | C07D209/08; G01N033/68A2B; C07D209/86; C07D213/20; C07D215/10; C07D277/64; C07D401/06+215+209; C07D401/06+213+209; C07D417/06+277+209   |
| OS         | MARPAT   | 139:32890   |
| AB         | The present invention describes a variety of substituted and unsubstituted carbazolylylvinyl dyes and their use for detecting and quantifying poly(amino acids), including peptides, polypeptides and proteins. The labeled proteins or peptides are highly colored, but are also detected by their strong fluorescence enhancement. Poly(amino acids) are detected in soln., in electrophoretic gels, and on solid supports, including blots and dipsticks. The present method of staining is highly sensitive, extremely facile, and relatively non-selective and can be accomplished without the use of org. solvent additives. N-(4-Sulfobutyl)-4-methylquinolinium, inner salt, was prepd. from lepidine and 1,4-butanedisulfone and then reacted with 9-ethyl-3-carbazolecarboxaldehyde and piperidine to make a dye that was used to stain protein gels or proteins on filter membranes following dot-blotting or Western transfer. |   |
| ST         | carbazolylylvinyl dye protein colored stain fluorescence enhancement; gel electrophoresis protein stain; dot blot protein stain; Western blot protein stain  |   |
| IT         | Sulfates, uses<br>RL: NUJ (Other use, unclassified); USES (Uses)<br>(C6-18 anionic alkyl, as detergent in compn.; carbazolylylvinyl dye protein stains)  |   |
| IT         | Antibodies and Immunoglobulins<br>RL: ANT (Analyte); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)<br>(IgG; carbazolylylvinyl dye protein stains)  |   |
| IT         | Sulfonic acids, uses<br>RL: NUJ (Other use, unclassified); USES (Uses)<br>(alkanesulfonic, salts, C6-18 anionic, as detergent in compn.; carbazolylylvinyl dye protein stains)   |   |
| IT         | Detergents<br>(anionic, compn. contg.; carbazolylylvinyl dye protein stains)   |   |
| IT         | Colorimetry<br>Electrophoresis<br>Fluorometry<br>Gel electrophoresis<br>Microarray technology<br>Microparticles<br>Staining, biological<br>Stains, biological<br>(carbazolylylvinyl dye protein stains)  |   |
| IT         | Ovalbumin<br>RL: ANT (Analyte); BSU (Biological study, unclassified); RCT (Reactant); ANST (Analytical study); BIOL (Biological study); RACT (Reactant or reagent)<br>(carbazolylylvinyl dye protein stains)   |   |
| IT         | Peptides, analysis<br>Proteins<br>RL: ANT (Analyte); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)<br>(carbazolylylvinyl dye protein stains)   |   |
| IT         | Reagents<br>RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)<br>(carbazolylylvinyl dye protein stains)   |   |
| IT         | Analytical apparatus<br>(chip or slide or microparticle; carbazolylylvinyl dye protein stains)   |   |
| IT         | Proteins<br>RL: ANT (Analyte); SPN (Synthetic preparation); ANST (Analytical study);   |   |



PREP (Preparation)  
 (complexes, with dyes; carbazolylyvinyl dye protein stains)

IT Detergents  
 (compn. contg.; carbazolylyvinyl dye protein stains)

IT Tubulins  
 RL: ANT (Analyte); PEP (Physical, engineering or chemical process); PYP  
 (Physical process); RCT (Reactant); ANST (Analytical study); PROC  
 (Process); RACT (Reactant or reagent)  
 (electroblotting from stained gels; carbazolylyvinyl dye protein stains)

IT Staining, biological  
 Stains, biological  
 (fluorescent; carbazolylyvinyl dye protein stains)

IT Immunoassay  
 (immunoblotting, proteins detection on filter membranes following;  
 carbazolylyvinyl dye protein stains)

IT Proteins  
 RL: ANT (Analyte); SPN (Synthetic preparation); ANST (Analytical study);  
 PREP (Preparation)  
 (labeled; carbazolylyvinyl dye protein stains)

IT \*\*\*Laser\*\*\* ionization mass spectrometry  
 (photodesorption, matrix-assisted; carbazolylyvinyl dye protein stains)

IT \*\*\*Laser\*\*\* desorption mass spectrometry  
 (photoionization, matrix-assisted; carbazolylyvinyl dye protein stains)

IT Fluoropolymers, analysis  
 RL: ARU (Analytical role, unclassified); TEM (Technical or engineered  
 material use); ANST (Analytical study); USES (Uses)  
 (proteins detection on filter membranes of; carbazolylyvinyl dye protein  
 stains)

IT Membrane filters  
 (proteins detection on; carbazolylyvinyl dye protein stains)

IT Albumins, analysis  
 RL: ANT (Analyte); RCT (Reactant); ANST (Analytical study); RACT (Reactant  
 or reagent)  
 (serum; carbazolylyvinyl dye protein stains)

IT Gel electrophoresis  
 (two-dimensional; carbazolylyvinyl dye protein stains)

IT 9014-24-8  
 RL: ANT (Analyte); ANST (Analytical study)  
 (II, tetramer peptide of, detection of; carbazolylyvinyl dye protein  
 stains)

IT 9001-63-2, Lysozyme  
 RL: ANT (Analyte); BSU (Biological study, unclassified); RCT (Reactant);  
 ANST (Analytical study); BIOL (Biological study); RACT (Reactant or  
 reagent)  
 (carbazolylyvinyl dye protein stains)

IT 9001-45-0, .beta.-Glucuronidase 9013-79-0, Esterase  
 RL: ANT (Analyte); CAT (Catalyst use); ANST (Analytical study); USES  
 (Uses)  
 (carbazolylyvinyl dye protein stains)

IT 9013-20-1, Streptavidin  
 RL: ANT (Analyte); RCT (Reactant); ANST (Analytical study); RACT (Reactant  
 or reagent)  
 (carbazolylyvinyl dye protein stains)

IT 541520-65-4P  
 RL: ARG (Analytical reagent use); PRP (Properties); RCT (Reactant); SPN  
 (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT  
 (Reactant or reagent); USES (Uses)  
 (carbazolylyvinyl dye protein stains)

IT 541520-64-3P  
 RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic  
 preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant  
 or reagent); USES (Uses)  
 (carbazolylyvinyl dye protein stains)

IT 541520-67-6P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (carbazolylyvinyl dye protein stains)

IT 90171-25-8P 541520-68-7P 541520-69-8P \*\*\*541520-70-1P\*\*\*  
 541520-71-2P 541520-72-3P 541520-74-5P 541520-76-7P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (carbazolylyvinyl dye protein stains)

IT 91-63-4, Quinaldine 108-89-4, 4-Picoline 109-72-8, n-Butyllithium,

reactions 110-89-4, Piperidine, reactions 491-35-0, Lepidine  
 627-31-6 1120-71-4, 1,3-Propanesultone 1150-62-5, N-Phenylcarbazole  
 1633-83-6, 1,4-Butanesultone 2540-30-9, 4-Methyl-1-phenyl-2-quinolone  
 2969-81-5, Ethyl 4-bromobutyrate 4224-70-8, 6-Bromohexanoic acid  
 7570-45-8, 9-Ethyl-3-carbazolecarboxaldehyde 10025-87-3, Phosphorus  
 oxychloride 184351-56-2 541520-75-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (carbazolylvinyl dye protein stains)  
 IT 15626-30-9P 56405-37-9P 58992-59-9P 71205-44-2P 77673-47-3P  
 87220-68-6P, 9-Phenyl-3-carbazolecarboxaldehyde 146368-08-3P  
 541520-66-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (carbazolylvinyl dye protein stains)  
 IT 151-21-3, Sodium dodecyl sulfate, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (fluorescence of dye in; carbazolylvinyl dye protein stains)  
 IT 9002-07-7, Trypsin  
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES  
 (Uses)  
 (protein digestion with; carbazolylvinyl dye protein stains)  
 IT 9004-70-0, Nitrocellulose 24937-79-9, PVDF  
 RL: ARU (Analytical role, unclassified); TEM (Technical or engineered  
 material use); ANST (Analytical study); USES (Uses)  
 (proteins detection on filter membranes of; carbazolylvinyl dye protein  
 stains)  
 IT 12778-32-4, .beta.-Bungarotoxin  
 RL: ANT (Analyte); ANST (Analytical study)  
 (small subunit of, detection of; carbazolylvinyl dye protein stains)  
 RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
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 (2) Grinvald; Biophys J 1982, V39, P301 CAPLUS  
 (3) Haugland; US 5616502 A 1997 CAPLUS  
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 Edition, Chapter 8 1996  
 (5) Loew; J Org Chem 1984, V49, P2546  
 L12 ANSWER 18 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2003:452115 CAPLUS  
 DN 139:28586  
 ED Entered STN: 13 Jun 2003  
 TI Heat-developable photographic material containing halation preventing dye  
 for short wavelength \*\*\*laser\*\*\* exposure  
 IN Kato, Kazunobu  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 47 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G03C001-76  
 ICS G03C001-498; G03C005-08  
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 Section cross-reference(s): 41  
 FAN.CNT 1  

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------------|------|----------|-----------------|----------|
| JP 2003167313       | A2   | 20030613 | JP 2001-370389  | 20011204 |
| PRAI JP 2001-370389 |      | 20011204 |                 |          |

  

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES                             |
|---------------|-------|--|
| JP 2003167313 | ICM   | G03C001-76   |
|               | ICS   | G03C001-498; G03C005-08  |
|               | IPCI  | G03C0001-76 [ICM,7]; G03C0001-498 [ICS,7]; G03C0005-08 [ICS,7] |

  
 OS MARPAT 139:28586  
 GI

AB The material, exposed with .ltoreq.500 nm light, has an image forming layer contg. (1) a light insensitive org. Ag salt, (2) a reducing agent, (3) a photosensitive Ag halide, (4) a contrast improving agent, (5) halation preventing dyes I or II [R1 = H, aliph. or arom. group; NR21R26, OR21, SR21; R21, R26 = H, aliph. or arom. group; R21 and R26 may form a N-contg. heterocyclic ring; R2 = H, aliph. or arom. group; L1, L2 = (un)substituted methine; Z1 = atoms required to form a 5- or 6-membered N-contg. heterocyclic ring; A = acid nucleus; B = arom. group, unsatd. heterocycle; Q1; L3 = (un)substituted methine; R3 = aliph. or arom. group; Z2 = atoms required to form the 5- or 6-membered N-contg. heterocyclic ring; n, m = 1, 2], and (6) an org. binder. It forms high contrast images.

ST heat developable photog film halation prevention dye; spectral sensitizing dye photog film heat developable

IT Photographic sensitizers  
(heat-developable photog. material contg. halation preventing dye for short wavelength \*\*\*laser\*\*\* exposure)

IT Photographic films  
(heat-developable; heat-developable photog. material contg. halation preventing dye for short wavelength \*\*\*laser\*\*\* exposure)

IT \*\*\*436859-25-5\*\*\* 527698-66-4 527698-67-5 538334-48-4 538334-50-8  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(heat-developable photog. material contg. halation preventing dye for short wavelength \*\*\*laser\*\*\* exposure)

IT 62077-32-1  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(spectral sensitizer; heat-developable photog. material contg. halation preventing dye for short wavelength \*\*\*laser\*\*\* exposure)

L12 ANSWER 19 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:49336 CAPLUS

DN 139:45791

ED Entered STN: 21 Jan 2003

TI Ditopic complex formation of the crown-containing 2-styrylbenzothiazole

AU Fedorov, Yu. V.; Fedorova, O. A.; Andryukhina, E. N.; Gromov, S. P.; Alfimov, M. V.; Kuzmina, L. G.; Churakov, A. V.; Howard, J. A. K.; Aaron, J.-J.

CS Photochemistry Center of Russian Academy of Sciences, Moscow, 117421, Russia

SO New Journal of Chemistry (2003), 27(2), 280-288

CODEN: NJCHE5; ISSN: 1144-0546

PB Royal Society of Chemistry

DT Journal

LA English

CC 78-7 (Inorganic Chemicals and Reactions)

Section cross-reference(s): 68, 73, 74, 75

OS CASREACT 139:45791

AB The complex formation of 2-styrylbenzothiazole contg. a 15-crown-5 ether fragment with alk. earth metal cations, proton, Ag<sup>+</sup> and Hg<sup>2+</sup> was studied by \*\*\*optical\*\*\* and x-ray diffraction methods. The compd. is able to bind the metal cations through the participation of two centers: the crown ether moiety and the heterocyclic part. The alk. earth metal cations form complexes with the macrocyclic part of the mol. The formation of a strong sandwich complex was found in the case of Ba<sup>2+</sup>. The proton coordinates with the N atom of the heterocyclic fragment of the mol. The Ag<sup>+</sup> and Hg<sup>2+</sup> cations bind with both centers of the mol. The crown ether fragment and the heterocyclic residue.

ST styrylbenzothiazolylcrown ether prepn structure complexation alk earth mercury; silver styrylbenzothiazolylcrown ether complex prepn structure; barium styrylbenzothiazolylcrown ether complex prepn; crystal structure styrylbenzothiazolylcrown ether silver complex; stability const alk earth mercury styrylbenzothiazolylcrown ether complex; fluorescence styrylbenzothiazolylcrown ether alk earth mercury complex

IT Formation constant  
(of alk. earth metal and mercury styrylbenzothiazolylcrown ether complexes)

IT Fluorescence

(of styrylbenzothiazolylcrown ether and its alk. earth and mercury complexes)

IT Crystal structure  
Molecular structure  
(of styrylbenzothiazolylcrown ether and its silver complex)

IT Alkaline earth complexes  
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)  
(styrylbenzothiazolylcrown ether; stability consts. of)

IT 464195-42-4 540772-01-8 540772-06-3 540772-08-5  
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)  
(fluorescence and stability consts. of)

IT 464185-98-6P  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and crystal structure and complexation with alk. earth metals and mercury and protonation and fluorescence)

IT 540771-98-0P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and crystal structure and stability consts. and fluorescence)

IT \*\*\*540771-94-6P\*\*\*  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reactant for prepn. of styrylbenzothiazolylcrown ether)

IT 540771-96-8P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and stability consts. and fluorescence)

IT 120-75-2 137-07-5, 2-Aminothiophenol 1628-57-5 60835-73-6  
161837-23-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant for prepn. of styrylbenzothiazolylcrown ether)

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L12 ANSWER 20 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2002:889053 CAPLUS  
 DN 137:377546  
 ED Entered STN: 22 Nov 2002  
 TI Fabrication method of photosensitive coloring composition for color filters  
 IN Kamata, Hirotoshi; Onishi, Mina; Katoh, Tsuyoshi; Miyajima, Yoshio; Murofushi, Katsumi  
 PA Showa Denko K. K., Japan  
 SO PCT Int. Appl., 131 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM G03C  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38

FAN.CNT 1

|      | PATENT NO.      | KIND   | DATE     | APPLICATION NO. | DATE     |
|------|-----------------|--|----------|-----------------|----------|
| PI   | WO 2002093255   | A2   | 20021121 | WO 2002-JP4645  | 20020514 |
|      | WO 2002093255   | A3   | 20030508 |                 |          |
|      | W:              | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW |          |                 |          |
|      | RW:             | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG   |          |                 |          |
|      | JP 2002341533   | A2   | 20021127 | JP 2001-144200  | 20010515 |
|      | JP 2002371204   | A2   | 20021226 | JP 2001-182162  | 20010615 |
|      | JP 2003043685   | A2   | 20030213 | JP 2001-235902  | 20010803 |
|      | EP 1388025      | A2   | 20040211 | EP 2002-724780  | 20020514 |
|      | R:              | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |          |                 |          |
|      | CN 1529833      | A  | 20040915 | CN 2002-807504  | 20020514 |
|      | US 2004157140   | A1   | 20040812 | US 2003-477357  | 20031112 |
| PRAI | JP 2001-144200  | A  | 20010515 |                 |          |
|      | US 2001-292527P | P  | 20010523 |                 |          |
|      | JP 2001-182162  | A  | 20010615 |                 |          |
|      | US 2001-301235P | P  | 20010628 |                 |          |
|      | JP 2001-235902  | A  | 20010803 |                 |          |
|      | US 2001-311075P | P  | 20010810 |                 |          |
|      | WO 2002-JP4645  | W  | 20020514 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|---------------|-------|---|
| WO 2002093255 | ICM   | G03C  |
|               | IPCI  | G03C [ICM,7]  |
|               | ECLA  | G03F007/00B2; G03F007/033; G03F007/038S   |
| JP 2002341533 | IPCI  | G03F0007-033 [ICM,7]; C08F0002-44 [ICS,7]; C08F0002-50 [ICS,7]; C08F0220-56 [ICS,7]; C08F0265-10 [ICS,7]; C09D0017-00 [ICS,7]; G02B0005-20 [ICS,7]; G03F0007-004 [ICS,7]; G03F0007-027 [ICS,7]; G03F0007-028 [ICS,7]; G03F0007-029 [ICS,7]                    |
| JP 2002371204 | IPCI  | C09C0001-56 [ICM,7]; C08F0002-38 [ICS,7]; C08F0002-44 [ICS,7]; C08F0002-50 [ICS,7]; C08F0265-02 [ICS,7]; C08F0292-00 [ICS,7]; C09C0001-48 [ICS,7]; C09D0017-00 [ICS,7]; G02B0005-00 [ICS,7]; G02B0005-20 [ICS,7]; G02F0001-1335 [ICS,7]; G03F0007-004 [ICS,7] |
| JP 2003043685 | IPCI  | G03F0007-027 [ICM,7]; C08F0299-02 [ICS,7]; C08L0033-00 [ICS,7]; C08L0063-10 [ICS,7]; G02B0005-20 [ICS,7]; G03F0007-033 [ICS,7]  |
| EP 1388025    | IPCI  | G03C0007-00 [ICM,7]; G03F0007-033 [ICS,7]   |

CN 1529833 IPCI G03C0007-00 [ICM,7]; G03F0007-033 [ICS,7]  
 US 2004157140 IPCI G02B0005-20 [ICM,7]  
 NCL 430/007.000  
 ECLA G03F007/00B2; G03F007/033; G03F007/038S

OS MARPAT 137:377546  
 AB A photosensitive coloring compn. for color filters using coloring compns. contg. (a) a binder resin having an amido group and a carboxyl group and (b) a coloring material, has excellent photosensitivity and has improved dispersibility upon producing in particular a coloring compn. contg. a black pigment such as a carbon black. Use of an epoxy(meth)acrylate resin can further improve the photosensitivity and form a black matrix having sufficient film strength and low reflectivity. Furhter, use of a modified carbon black treated with a compd. having a isocyanate group and an ethylenically unsatd. bond in a mol. as the coloring material can give rise to a photosensitive resin compn. excellent in optically opaque property, photosensitivity and dispersion stability.

ST photosensitive compn color filter fabrication resist; black matrix resist  
 IT Carbon black, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (Special Black 4, Special Black 250, Special Black 350; photosensitive coloring compn. for color filters)

IT \*\*\*Optical\*\*\* filters  
 Photoresists  
 (photosensitive coloring compn. for color filters)

IT Liquid crystal displays  
 (photosensitive coloring compn. for color filters in relation to)

IT 475587-02-1P, N-Acryloylmorpholine-butyl methacrylate-methacrylic acid-methyl methacrylate copolymer 475587-03-2P, Butyl methacrylate-methacrylic acid-methyl methacrylate-N-vinylcaprolactam copolymer  
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (binder; photosensitive coloring compn. for color filters)

IT 442517-65-9, Flowlen Dopa 33  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (dispersant; photosensitive coloring compn. for color filters)

IT 84-51-5, 2-Ethylanthraquinone 90-93-7, 4,4'-Bis(N,N-diethylamino)benzophenone 3584-23-4, 2-(4-Methoxyphenyl)-4,6-bis(trichloromethyl)-s-triazine 7189-82-4, 2,2'-Bis(o-chlorophenyl)-4,4',5,5'-tetraphenyl-1,2'-biimidazole 42573-57-9, 2-(4-Methoxystyryl)-4,6-bis(trichloromethyl)-s-triazine 219125-19-6 289891-28-7  
 \*\*\*475587-05-4\*\*\*  
 RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)  
 (photopolymn. initiator; photosensitive coloring compn. for color filters)

IT 71868-10-5, Irgacure 907 119313-12-1, Irgacure 369  
 RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)  
 (photosensitive coloring compn. for color filters)

IT 67653-78-5P, Dipentaerythritol hexaacrylate, homopolymer  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photosensitive coloring compn. for color filters)

IT 151820-61-0P 190913-15-6P 475589-41-4P, Epiclon N 665 acrylate hydrogen succinate 475589-43-6P 475589-45-8P  
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photosensitive coloring compn. for color filters)

IT 29570-58-9, Dipentaerythritol hexaacrylate 33007-83-9 92140-97-1  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (photosensitive coloring compn. for color filters)

IT 88007-27-6P, 2-Methacryloyloxyethyl isocyanate, homopolymer  
 RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photosensitive coloring compn. for color filters comprising modified carbon black)

IT 30674-80-7, 2-Methacryloyloxyethyl isocyanate  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (photosensitive coloring compn. for color filters comprising modified

carbon black)  
IT 108-94-1, Cyclohexanone, uses 84540-57-8, Propylene glycol monomethyl ether acetate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(solvent; photosensitive coloring compn. for color filters)

L12 ANSWER 21 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2002:847940 CAPLUS  
DN 137:354391  
ED Entered STN: 08 Nov 2002  
TI Photosensitizing methine dyes  
IN Takashima, Masanobu  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 11 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C09B023-00  
ICS B41M005-26; C07D209-00; C07D209-14; C07D401-14; C07D403-14;  
C07D519-00; G03C001-26; G03F007-004; G03G005-06  
CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)  
Section cross-reference(s): 74, 76

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2002322381  | A2   | 20021108 | JP 2001-125704  | 20010424 |
| PRAI | JP 2001-125704 |      | 20010424 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|---------------|-------|---|
| JP 2002322381 | ICM   | C09B023-00  |
|               | ICS   | B41M005-26; C07D209-00; C07D209-14; C07D401-14; C07D403-14; C07D519-00; G03C001-26; G03F007-004; G03G005-06   |
|               | IPCI  | C09B0023-00 [ICM,7]; B41M0005-26 [ICS,7]; C07D0209-00 [ICS,7]; C07D0209-14 [ICS,7]; C07D0401-14 [ICS,7]; C07D0403-14 [ICS,7]; C07D0519-00 [ICS,7]; G03C0001-26 [ICS,7]; G03F0007-004 [ICS,7]; G03G0005-06 [ICS,7] |

OS MARPAT 137:354391  
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention relates to methine dyes I (R1, R2 = aliph., arom.; R3-6 = aliph.; L1-4 = methine; R7, R8 = H, aliph., arom., hetero ring; Q = single linkage, divalent linkage; Z1, Z2 = benzene ring; X- = anion; m, n = 1-3) and II (R11-14 = aliph., arom.; L11-14 = same as L1-4; R15, R16 = same as R7 and R8; Q = same as above; Z11, Z12 = same as Z1, Z2; X-, m, n = same as above), useful for photog., electrophotog., \*\*\*optical\*\*\* disks, etc. Thus, an anilino compd. III was reacted with piperazine and treated with NH4PF6 to give I (R1, R2 = heptyl; R3-6 = Me; Z1, Z2 = SO2Me-substituted benzene ring; L1-4 = CH; m, n = 1; Q, R7, R8 = forming a piperazine ring; X = PF6 ) in a 64% yield.

ST methine dye photosensitizing indolyl bismethine photog; imidazoquinoxaline methine dye electrophotog bismethine

IT Cyanine dyes  
(photosensitizing bismethine dyes having indole or imidazoquinoxaline structures)

IT \*\*\*474510-78-6P\*\*\* \*\*\*474510-81-1P\*\*\* \*\*\*474510-84-4P\*\*\*  
\*\*\*474510-88-8P\*\*\* \*\*\*474510-90-2P\*\*\* \*\*\*474510-94-6P\*\*\*  
\*\*\*474510-96-8P\*\*\* 474511-00-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(photosensitizing bismethine dyes having indole or imidazoquinoxaline structures)

IT 110-85-0, Piperazine, reactions 474511-02-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(photosensitizing bismethine dyes having indole or imidazoquinoxaline

structures)

L12 ANSWER 22 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2002:833112 CAPLUS  
DN 137:343938  
ED Entered STN: 01 Nov 2002  
TI \*\*\*Optical\*\*\* data carrier comprising a hemicyanine dye in the  
\*\*\*information\*\*\* layer as light-absorbing compound  
IN Berneth, Horst; Bruder, Friedrich-Karl; Haese, Wilfried; Hagen, Rainer;  
Hassenrueck, Karin; Kostromine, Serguei; Landenberger, Peter; Oser,  
Rafael; Sommermann, Thomas; Stawitz, Josef-Walter; Bieringer, Thomas  
PA Bayer Aktiengesellschaft, Germany  
SO PCT Int. Appl., 52 pp.  
CODEN: PIXXD2  
DT Patent  
LA German  
IC ICM G11B007-24  
ICS C09B023-00; C09B023-14; C09B023-10  
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 41  
FAN.CNT 15

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO.  | DATE     |
|------|---|------|----------|------------------|----------|
| PI   | WO 2002086879   | A1   | 20021031 | WO 2002-EP3088   | 20020320 |
|      | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                  |          |
|      | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                  |          |
|      | DE 10115227   | A1   | 20021219 | DE 2001-10115227 | 20010328 |
|      | DE 10117462   | A1   | 20021010 | DE 2001-10117462 | 20010406 |
|      | DE 10136064   | A1   | 20030213 | DE 2001-10136064 | 20010725 |
|      | US 2002155381   | A1   | 20021024 | US 2002-102586   | 20020320 |
|      | WO 2002086878   | A2   | 20021031 | WO 2002-EP3071   | 20020320 |
|      | WO 2002086878   | A3   | 20030227 |                  |          |
|      | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                  |          |
|      | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                  |          |
|      | US 2003054291   | A1   | 20030320 | US 2002-102282   | 20020320 |
|      | EP 1374234  | A1   | 20040102 | EP 2002-735148   | 20020320 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |      |          |                  |          |
|      | EP 1377975  | A2   | 20040107 | EP 2002-727443   | 20020320 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |      |          |                  |          |
|      | EP 1377978  | A2   | 20040107 | EP 2002-737887   | 20020320 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |      |          |                  |          |
|      | CN 1515002  | A    | 20040721 | CN 2002-810906   | 20020320 |
|      | JP 2004524198   | T2   | 20040812 | JP 2002-584311   | 20020320 |
|      | JP 2004524199   | T2   | 20040812 | JP 2002-584312   | 20020320 |
|      | CN 1527996  | A    | 20040908 | CN 2002-810904   | 20020320 |
|      | JP 2004534344   | T2   | 20041111 | JP 2002-578290   | 20020320 |
|      | US 2005042407   | A1   | 20050224 | US 2004-953235   | 20040929 |
| PRAI | DE 2001-10115227  | A    | 20010328 |                  |          |
|      | DE 2001-10117462  | A    | 20010406 |                  |          |
|      | DE 2001-10136064  | A    | 20010725 |                  |          |
|      | DE 2001-10117461  | A    | 20010406 |                  |          |
|      | DE 2001-10117463  | A    | 20010406 |                  |          |



|                  |    |          |
|------------------|----|----------|
| DE 2001-10117464 | A  | 20010406 |
| DE 2001-10124585 | A  | 20010521 |
| DE 2001-10136063 | A  | 20010725 |
| DE 2001-10140165 | A  | 20010822 |
| EP 2001-123810   | A  | 20011004 |
| EP 2001-130527   | A  | 20011221 |
| DE 2002-10200484 | A  | 20020109 |
| DE 2002-10202571 | A  | 20020124 |
| EP 2002-5505     | A  | 20020311 |
| US 2002-101793   | A3 | 20020320 |
| WO 2002-EP3071   | W  | 20020320 |
| WO 2002-EP3088   | W  | 20020320 |
| WO 2002-EP3094   | W  | 20020320 |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|---------------|-------|---|
| WO 2002086879 | ICM   | G11B007-24  |
|               | ICS   | C09B023-00; C09B023-14; C09B023-10  |
|               | IPCI  | G11B0007-24 [ICM,7]; C09B0023-00 [ICS,7]; C09B0023-14 [ICS,7]; C09B0023-10 [ICS,7]  |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09B069/02; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26 |
| DE 10115227   | IPCI  | G11B0007-24 [ICM,7]   |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26             |
| DE 10117462   | IPCI  | G11B0007-24 [ICM,7]   |
|               | ECLA  | C09B069/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/254; G11B007/26   |
| DE 10136064   | IPCI  | G11B0007-24 [ICM,7]   |
|               | ECLA  | C09B044/10; C09B069/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/254; G11B007/26   |
| US 2002155381 | IPCI  | G11B0007-24 [ICM,7]   |
|               | NCL   | 430/270.150   |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26             |
| WO 2002086878 | IPCI  | G11B0007-24 [ICM,7]; C09B0069-10 [ICS,7]  |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26             |
| US 2003054291 | IPCI  | G11B0007-24 [ICM,7]   |
|               | NCL   | 430/270.150   |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09B069/02; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26 |
| EP 1374234    | IPCI  | G11B0007-24 [ICM,7]; C09B0023-00 [ICS,7]; C09B0023-14 [ICS,7]; C09B0023-10 [ICS,7]  |
| EP 1377975    | IPCI  | G11B0007-24 [ICM,7]   |
| EP 1377978    | IPCI  | G11B0007-24 [ICM,7]; C09B0069-10 [ICS,7]  |

CN 1515002 IPCI G11B0007-24 [ICM,7]; C09B0069-10 [ICS,7]  
 JP 2004524198 IPCI B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]; G11B0007-26 [ICS,7]  
 FTERM 2H111/EA03; 2H111/EA12; 2H111/EA22; 2H111/EA32;  
 2H111/FA01; 2H111/FA12; 2H111/FA14; 2H111/FA21;  
 2H111/FA37; 2H111/FB42; 2H111/FB43; 2H111/FB46;  
 2H111/FB50; 2H111/GA02; 2H111/GA07; 5D029/JA04;  
 5D029/JC01; 5D121/AA01; 5D121/AA03; 5D121/JJ07  
 JP 2004524199 IPCI B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]; G11B0007-26 [ICS,7]  
 FTERM 2H111/EA03; 2H111/EA12; 2H111/EA22; 2H111/EA32;  
 2H111/FA01; 2H111/FA12; 2H111/FA14; 2H111/FA15;  
 2H111/FA21; 2H111/FA37; 2H111/FB43; 2H111/GA02;  
 2H111/GA07; 5D029/JA04; 5D121/AA01; 5D121/EE21  
 CN 1527996 IPCI G11B0007-24 [ICM,7]  
 JP 2004534344 IPCI G11B0007-24 [ICM,7]; B41M0005-26 [ICS,7]; C09B0023-00 [ICS,7]; G11B0007-26 [ICS,7]  
 FTERM 2H111/EA03; 2H111/EA12; 2H111/EA22; 2H111/EA25;  
 2H111/EA32; 2H111/EA43; 2H111/FA01; 2H111/FA14;  
 2H111/FA15; 2H111/FA21; 2H111/FB44; 2H111/FB45;  
 2H111/GA02; 2H111/GA03; 2H111/GA07; 4H056/CA01;  
 4H056/CA02; 4H056/CC05; 4H056/CC08; 4H056/CD05;  
 4H056/CE03; 4H056/CE07; 4H056/DD03; 4H056/DD07;  
 4H056/DD15; 4H056/DD19; 4H056/DD29; 5D029/JA04;  
 5D029/JB28; 5D029/JB46; 5D029/JB47; 5D029/LA02;  
 5D029/LA11; 5D029/LB07; 5D029/LB12; 5D029/LB17;  
 5D029/LC08; 5D121/AA01; 5D121/AA04; 5D121/EE02;  
 5D121/EE03; 5D121/EE22  
 US 2005042407 IPCI B32B0003-02 [ICM,7]  
 NCL 428/064.400  
 ECLA C07D217/14; C07D221/04B; C07D311/12; C07D311/80;  
 C07D455/04; C07D491/04+311B+221B; C07F015/06B;  
 C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2;  
 C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B;  
 C09B047/08B; C09B047/26; C09B069/02; C09K009/02;  
 G11B007/0045R; G11B007/24; G11B007/244; G11B007/247;  
 G11B007/248; G11B007/249; G11B007/254; G11B007/26  
 OS MARPAT 137:343938  
 AB The invention relates to an \*\*\*optical\*\*\* data support, comprising a preferably transparent substrate, optionally already coated with one or several reflective layers, with an \*\*\*information\*\*\* layer, which may be written to by means of light, optionally one or several reflective layers, and optionally a protective layer, or a further substrate or a covering layer applied to the surface thereof. The support may be written to and read from by means of blue or red light, preferably \*\*\*laser\*\*\* light. The \*\*\*information\*\*\* layer contains at least one hemicyanine dye with light absorption max. of 420-650 nm as light-absorbing compd. and, optionally, a binder.  
 ST hemicyanine dye light absorber \*\*\*information\*\*\* layer \*\*\*optical\*\*\* disk  
 IT \*\*\*Optical\*\*\* disks  
 (hemicyanine dye as light-absorbing compd. in \*\*\*information\*\*\* layer of \*\*\*optical\*\*\* data carrier)  
 IT Cyanine dyes  
 (hemicyanine; hemicyanine dye as light-absorbing compd. in \*\*\*information\*\*\* layer of \*\*\*optical\*\*\* data carrier)  
 IT 117-92-0P 959-81-9P 2156-29-8P 6359-45-1P 88519-72-6P  
 202063-08-9P \*\*\*467222-68-0P\*\*\* 474087-27-9P 474087-28-0P  
 474087-30-4P \*\*\*474087-32-6P\*\*\* \*\*\*474087-34-8P\*\*\* 474087-36-0P  
 474087-37-1P 474087-39-3P 474087-41-7P 474087-42-8P 474087-44-0P  
 474087-46-2P 474087-48-4P 474087-50-8P 474087-51-9P 474087-53-1P  
 474087-55-3P 474087-57-5P 474087-58-6P 474087-59-7P 474093-52-2P  
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (hemicyanine dye as light-absorbing compd. in \*\*\*information\*\*\* layer of \*\*\*optical\*\*\* data carrier)  
 IT 13755-29-8, Sodium tetrafluoroborate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant for dye prepn.; hemicyanine dye as light-absorbing compd. in \*\*\*information\*\*\* layer of \*\*\*optical\*\*\* data carrier)  
 IT 118-12-7 3680-93-1

RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material for dye prepn.; hemicyanine dye as light-absorbing  
compd. in \*\*\*information\*\*\* layer of \*\*\*optical\*\*\* data  
carrier)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; PATENT ABSTRACTS OF JAPAN 1993, V017(324), PM-1433
- (2) Anon; PATENT ABSTRACTS OF JAPAN 1998, V1998(11)
- (3) Anon; PATENT ABSTRACTS OF JAPAN 1999, V1999(05)
- (4) Hayashibara Biochem Lab; EP 1191526 A 2002 CAPLUS
- (5) Kanno, T; US 6103331 A 2000
- (6) Matsushita Electric Ind Co Ltd; JP 11034497 A 1999 CAPLUS
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- (8) Nippon Columbia Co Ltd; JP 05038878 A 1993 CAPLUS
- (9) Samsung Electronics Co Ltd; EP 1156084 A 2001 CAPLUS

L12 ANSWER 23 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:778305 CAPLUS

DN 137:286561

ED Entered STN: 11 Oct 2002

TI \*\*\*Optical\*\*\* data carrier containing cationic amino heterocyclic dye  
as light-absorbing compound in the \*\*\*information\*\*\* layer and the  
dyes

IN Berneth, Horst; Bruder, Friedrich-Karl; Haese, Wilfried; Hagen, Rainer;  
Hassenrueck, Karin; Kostromine, Serguei; Landenberger, Peter; Oser,  
Rafael; Sommermann, Thomas; Stawitz, Josef-Walter; Bieringer, Thomas

PA Bayer Aktiengesellschaft, Germany

SO PCT Int. Appl., 95 pp.

CODEN: PIXXD2

DT Patent

LA German

IC ICM G11B007-24

ICS C09B023-00; C09B029-033; C09B029-36; C07D263-48; C07D277-38;  
C07D307-66; C07D333-36

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

Section cross-reference(s): 41

FAN.CNT 15

|    | PATENT NO.  | KIND | DATE     | APPLICATION NO.  | DATE     |
|----|---|------|----------|------------------|----------|
| PI | WO 2002080160   | A1   | 20021010 | WO 2002-EP3067   | 20020320 |
|    | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,<br>CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,<br>GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,<br>LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,<br>PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,<br>UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,<br>TJ, TM |      |          |                  |          |
|    | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,<br>CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,<br>BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                  |          |
|    | DE 10115227   | A1   | 20021219 | DE 2001-10115227 | 20010328 |
|    | DE 10117462   | A1   | 20021010 | DE 2001-10117462 | 20010406 |
|    | DE 10136063   | A1   | 20030213 | DE 2001-10136063 | 20010725 |
|    | DE 10136064   | A1   | 20030213 | DE 2001-10136064 | 20010725 |
|    | US 2002155381   | A1   | 20021024 | US 2002-102586   | 20020320 |
|    | WO 2002086878   | A2   | 20021031 | WO 2002-EP3071   | 20020320 |
|    | WO 2002086878   | A3   | 20030227 |                  |          |
|    | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,<br>CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,<br>GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,<br>LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,<br>PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,<br>UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,<br>TJ, TM |      |          |                  |          |
|    | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,<br>CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,<br>BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                  |          |
|    | US 2003013041   | A1   | 20030116 | US 2002-102136   | 20020320 |
|    | EP 1377971  | A1   | 20040107 | EP 2002-712949   | 20020320 |
|    | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  |      |          |                  |          |

|   |    |          |                  |          |
|---|----|----------|------------------|----------|
| EP 1377975  | A2 | 20040107 | EP 2002-727443   | 20020320 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR |    |          |                  |          |
| EP 1377978  | A2 | 20040107 | EP 2002-737887   | 20020320 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR |    |          |                  |          |
| CN 1515002  | A  | 20040721 | CN 2002-810906   | 20020320 |
| JP 2004524198   | T2 | 20040812 | JP 2002-584311   | 20020320 |
| JP 2004525799   | T2 | 20040826 | JP 2002-578296   | 20020320 |
| CN 1545700  | A  | 20041110 | CN 2002-810890   | 20020320 |
| JP 2004534344   | T2 | 20041111 | JP 2002-578290   | 20020320 |
| TW 225650   | B1 | 20041221 | TW 2002-91105383 | 20020320 |
| US 2005042407   | A1 | 20050224 | US 2004-953235   | 20040929 |
| PRAI DE 2001-10115227   | A  | 20010328 |                  |          |
| DE 2001-10117462  | A  | 20010406 |                  |          |
| DE 2001-10136063  | A  | 20010725 |                  |          |
| DE 2001-10136064  | A  | 20010725 |                  |          |
| DE 2001-10117461  | A  | 20010406 |                  |          |
| DE 2001-10117463  | A  | 20010406 |                  |          |
| DE 2001-10117464  | A  | 20010406 |                  |          |
| DE 2001-10124585  | A  | 20010521 |                  |          |
| DE 2001-10140165  | A  | 20010822 |                  |          |
| EP 2001-123810  | A  | 20011004 |                  |          |
| EP 2001-130527  | A  | 20011221 |                  |          |
| DE 2002-10200484  | A  | 20020109 |                  |          |
| DE 2002-10202571  | A  | 20020124 |                  |          |
| EP 2002-5505  | A  | 20020311 |                  |          |
| US 2002-101793  | A3 | 20020320 |                  |          |
| WO 2002-EP3067  | W  | 20020320 |                  |          |
| WO 2002-EP3071  | W  | 20020320 |                  |          |
| WO 2002-EP3094  | W  | 20020320 |                  |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
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| WO 2002080160 | ICM   | G11B007-24  |
|               | ICS   | C09B023-00; C09B029-033; C09B029-36; C07D263-48; C07D277-38; C07D307-66; C07D333-36   |
|               | IPCI  | G11B0007-24 [ICM,7]; C09B0023-00 [ICS,7]; C09B0029-033 [ICS,7]; C09B0029-36 [ICS,7]; C07D0263-48 [ICS,7]; C07D0277-38 [ICS,7]; C07D0307-66 [ICS,7]; C07D0333-36 [ICS,7]   |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09B069/02; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26 |
| DE 10115227   | IPCI  | G11B0007-24 [ICM,7]   |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26             |
| DE 10117462   | IPCI  | G11B0007-24 [ICM,7]   |
|               | ECLA  | C09B069/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/254; G11B007/26   |
| DE 10136063   | IPCI  | G11B0007-24 [ICM,7]   |
|               | ECLA  | C09B069/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/254; G11B007/26   |
| DE 10136064   | IPCI  | G11B0007-24 [ICM,7]   |
|               | ECLA  | C09B044/10; C09B069/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/254; G11B007/26   |
| US 2002155381 | IPCI  | G11B0007-24 [ICM,7]   |
|               | NCL   | 430/270.150   |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B;   |

|               |             |  |
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| WO 2002086878 | IPCI        | C09B047/08B; C09B047/26; C09K009/02; G11B007/0045R;<br>G11B007/24; G11B007/244; G11B007/247; G11B007/248;<br>G11B007/249; G11B007/254; G11B007/26  |
|               | ECLA        | G11B0007-24 [ICM,7]; C09B0069-10 [ICS,7]<br>C07D217/14; C07D221/04B; C07D311/12; C07D311/80;<br>C07D455/04; C07D491/04+311B+221B; C07F015/06B;<br>C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2;<br>C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B;<br>C09B047/08B; C09B047/26; C09K009/02; G11B007/0045R;<br>G11B007/24; G11B007/244; G11B007/247; G11B007/248;<br>G11B007/249; G11B007/254; G11B007/26  |
| US 2003013041 | IPCI        | G11B0007-24 [ICM,7]; C07D0317-00 [ICS,7]; C07D0327-04<br>[ICS,7]; C07D0339-02 [ICS,7]  |
|               | NCL<br>ECLA | 430/270.180<br>C07D217/14; C07D221/04B; C07D311/12; C07D311/80;<br>C07D455/04; C07D491/04+311B+221B; C07F015/06B;<br>C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2;<br>C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B;<br>C09B047/08B; C09B047/26; C09B069/02; C09K009/02;<br>G11B007/0045R; G11B007/24; G11B007/244; G11B007/247;<br>G11B007/248; G11B007/249; G11B007/254; G11B007/26   |
| EP 1377971    | IPCI        | G11B0007-24 [ICM,7]; C09B0023-00 [ICS,7]; C09B0029-033<br>[ICS,7]; C09B0029-36 [ICS,7]; C07D0263-48 [ICS,7];<br>C07D0277-38 [ICS,7]; C07D0307-66 [ICS,7]; C07D0333-36<br>[ICS,7]   |
| EP 1377975    | IPCI        | G11B0007-24 [ICM,7]  |
| EP 1377978    | IPCI        | G11B0007-24 [ICM,7]; C09B0069-10 [ICS,7]   |
| CN 1515002    | IPCI        | G11B0007-24 [ICM,7]; C09B0069-10 [ICS,7]   |
| JP 2004524198 | IPCI        | B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]; G11B0007-26<br>[ICS,7]   |
|               | FTERM       | 2H111/EA03; 2H111/EA12; 2H111/EA22; 2H111/EA32;<br>2H111/FA01; 2H111/FA12; 2H111/FA14; 2H111/FA21;<br>2H111/FA37; 2H111/FB42; 2H111/FB43; 2H111/FB46;<br>2H111/FB50; 2H111/GA02; 2H111/GA07; 5D029/JA04;<br>5D029/JC01; 5D121/AA01; 5D121/AA03; 5D121/JJ07   |
| JP 2004525799 | IPCI        | B41M0005-26 [ICM,7]; C09B0023-00 [ICS,7]; C09B0057-00<br>[ICS,7]; G11B0007-24 [ICS,7]; G11B0007-26 [ICS,7];<br>C07D0277-20 [ICS,7]; C07D0277-42 [ICS,7]; C07D0293-06<br>[ICS,7]; C07D0307-66 [ICS,7]; C07D0333-36 [ICS,7];<br>C07D0405-06 [ICS,7]; C07D0409-06 [ICS,7]; C07D0409-14<br>[ICS,7]; C07D0413-14 [ICS,7]; C07D0417-04 [ICS,7];<br>C07D0417-06 [ICS,7]; C07D0417-12 [ICS,7]; C07D0417-14<br>[ICS,7]; C07D0471-06 [ICS,7]; C07D0513-04 [ICS,7]  |
|               | FTERM       | 2H111/EA03; 2H111/EA37; 2H111/EA39; 2H111/FA01;<br>2H111/FA11; 2H111/FA12; 2H111/FA14; 2H111/FB42;<br>2H111/GA02; 2H111/GA07; 4C023/GA01; 4C033/AD13;<br>4C033/AD16; 4C033/AD17; 4C033/AD18; 4C063/AA01;<br>4C063/AA03; 4C063/AA05; 4C063/BB02; 4C063/BB03;<br>4C063/BB09; 4C063/CC62; 4C063/CC67; 4C063/CC75;<br>4C063/CC92; 4C063/DD06; 4C063/DD10; 4C063/DD12;<br>4C063/DD62; 4C063/DD75; 4C063/EE10; 4C065/AA03;<br>4C065/AA07; 4C065/AA18; 4C065/BB09; 4C065/CC09;<br>4C065/DD01; 4C065/EE02; 4C065/HH01; 4C065/JJ01;<br>4C065/KK03; 4C065/PP07; 4C072/AA01; 4C072/AA07;<br>4C072/BB02; 4C072/BB06; 4C072/CC02; 4C072/CC17;<br>4C072/EE13; 4C072/FF13; 4C072/GG01; 4C072/GG08;<br>4C072/HH02; 4C072/HH07; 4C072/HH08; 4C072/UU04;<br>4H056/CA01; 4H056/CA03; 4H056/CC02; 4H056/CC06;<br>4H056/CC08; 4H056/CE02; 4H056/CE03; 4H056/DD03;<br>4H056/DD12; 4H056/DD15; 4H056/DD19; 4H056/EA13;<br>4H056/EA16; 4H056/FA03; 4H056/FA06; 5D029/JA04;<br>5D121/AA01; 5D121/JJ07 |
| CN 1545700    | IPCI        | G11B0007-24 [ICM,7]; C09B0023-00 [ICS,7]; C09B0029-033<br>[ICS,7]; C09B0029-36 [ICS,7]; C07D0263-48 [ICS,7];<br>C07D0277-38 [ICS,7]; C07D0307-66 [ICS,7]; C07D0333-36<br>[ICS,7]   |
| JP 2004534344 | IPCI        | G11B0007-24 [ICM,7]; B41M0005-26 [ICS,7]; C09B0023-00<br>[ICS,7]; G11B0007-26 [ICS,7]  |
|               | FTERM       | 2H111/EA03; 2H111/EA12; 2H111/EA22; 2H111/EA25;<br>2H111/EA32; 2H111/EA43; 2H111/FA01; 2H111/FA14;<br>2H111/FA15; 2H111/FA21; 2H111/FB44; 2H111/FB45;<br>2H111/GA02; 2H111/GA03; 2H111/GA07; 4H056/CA01;   |

4H056/CA02; 4H056/CC05; 4H056/CC08; 4H056/CD05;  
 4H056/CE03; 4H056/CE07; 4H056/DD03; 4H056/DD07;  
 4H056/DD15; 4H056/DD19; 4H056/DD29; 5D029/JA04;  
 5D029/JB28; 5D029/JB46; 5D029/JB47; 5D029/LA02;  
 5D029/LA11; 5D029/LB07; 5D029/LB12; 5D029/LB17;  
 5D029/LC08; 5D121/AA01; 5D121/AA04; 5D121/EE02;  
 5D121/EE03; 5D121/EE22  
 TW 225650 IPCI G11B0007-24 [ICM,7]  
 US 2005042407 IPCI B32B0003-02 [ICM,7]  
 NCL 428/064.400  
 ECLA C07D217/14; C07D221/04B; C07D311/12; C07D311/80;  
 C07D455/04; C07D491/04+311B+221B; C07F015/06B;  
 C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2;  
 C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B;  
 C09B047/08B; C09B047/26; C09B069/02; C09K009/02;  
 G11B007/0045R; G11B007/24; G11B007/244; G11B007/247;  
 G11B007/248; G11B007/249; G11B007/254; G11B007/26

OS MARPAT 137:286561  
 AB The invention relates to an \*\*\*optical\*\*\* data carrier that contains a preferably transparent substrate that is optionally already coated with one or more reflective layers, onto whose surface an \*\*\*information\*\*\* layer which can be written on with light, optionally one or more reflective layers and optionally a protective layer or a further substrate or a cover layer are applied. Said \*\*\*optical\*\*\* data carrier can be written on and read with blue, red or IR light, preferably \*\*\*laser\*\*\* light. The \*\*\*information\*\*\* layer comprises at least one cationic amino heterocyclic dye as light-absorbing compd. and optionally a binder. The dyes and the use of dyes with absorption maxima of 420-650 or 650-810 nm are also claimed.

ST amino heterocyclic dye light absorber \*\*\*information\*\*\* layer  
 \*\*\*optical\*\*\* disk

IT Dyes  
 (cationic amino heterocyclic; \*\*\*optical\*\*\* data carriers contg. cationic amino heterocyclic dye as light-absorbing compd. in \*\*\*information\*\*\* layer)

IT \*\*\*Optical\*\*\* ROM disks  
 ( \*\*\*optical\*\*\* data carriers contg. cationic amino heterocyclic dye as light-absorbing compd. in \*\*\*information\*\*\* layer)

IT 50884-10-1P 51082-88-3P 337466-35-0P 337466-37-2P 365424-03-9P  
 365424-05-1P 365424-11-9P 365424-13-1P \*\*\*467222-68-0P\*\*\*  
 \*\*\*467222-70-4P\*\*\* 467222-72-6P 467222-74-8P 467222-76-0P  
 467222-78-2P 467222-80-6P 467222-82-8P 467222-84-0P 467222-86-2P  
 467222-88-4P 467222-89-5P 467222-92-0P 467222-94-2P  
 \*\*\*467222-96-4P\*\*\* 467222-98-6P 467223-00-3P 467223-01-4P  
 467223-03-6P 467223-05-8P 467223-07-0P 467223-09-2P 467223-11-6P  
 467223-13-8P 467223-15-0P 467223-17-2P 467223-19-4P 467223-21-8P  
 467223-23-0P  
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (amino heterocyclic dyes as light absorbers in \*\*\*information\*\*\* layer of \*\*\*optical\*\*\* data carriers)

IT 100-10-7, 4-Dimethylamino benzaldehyde 108-24-7, Acetic anhydride 118-12-7 149-73-5, Trimethyl orthoformate 3680-93-1 7791-03-9, Lithium perchlorate 13755-29-8, Sodium tetrafluoroborate 19983-28-9 467222-69-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (starting material; amino heterocyclic dyes as light absorbers in \*\*\*information\*\*\* layer of \*\*\*optical\*\*\* data carriers)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
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 (2) Agfa-Gevaert Ag; DE 2215830 A 1972 CAPLUS  
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 (6) Straley, J; US 3573289 A 1971 CAPLUS

L12 ANSWER 24 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2002:754712 CAPLUS  
 DN 137:286546  
 ED Entered STN: 04 Oct 2002  
 TI \*\*\*Optical\*\*\* data carrier containing xanthene dye as light-absorbing

compound in the \*\*\*information\*\*\* layer, the dyes and their preparation and use

IN Berneth, Horst; Bruder, Friedrich-Karl; Haese, Wilfried; Hagen, Rainer; Hassenrueck, Karin; Kostromine, Serguei; Landenberger, Peter; Oser, Rafael; Sommermann, Thomas; Stawitz, Josef-Walter; Bieringer, Thomas  
PA Bayer Aktiengesellschaft, Germany  
SO PCT Int. Appl., 73 pp.  
CODEN: PIXXD2  
DT Patent  
LA German  
IC ICM G11B007-24  
ICS C09B011-28; C07D311-82; C07D213-20  
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 41

FAN.CNT 15

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO.  | DATE     |
|------|---|------|----------|------------------|----------|
| PI   | WO 2002077984   | A1   | 20021003 | WO 2002-EP3095   | 20020320 |
|      | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                  |          |
|      | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                  |          |
|      | DE 10115227   | A1   | 20021219 | DE 2001-10115227 | 20010328 |
|      | DE 10117462   | A1   | 20021010 | DE 2001-10117462 | 20010406 |
|      | DE 10136063   | A1   | 20030213 | DE 2001-10136063 | 20010725 |
|      | DE 10136064   | A1   | 20030213 | DE 2001-10136064 | 20010725 |
|      | DE 10202571   | A1   | 20030731 | DE 2002-10202571 | 20020124 |
|      | US 2002155381   | A1   | 20021024 | US 2002-102586   | 20020320 |
|      | WO 2002086878   | A2   | 20021031 | WO 2002-EP3071   | 20020320 |
|      | WO 2002086878   | A3   | 20030227 |                  |          |
|      | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                  |          |
|      | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                  |          |
|      | US 2003096192   | A1   | 20030522 | US 2002-102588   | 20020320 |
|      | EP 1377974  | A1   | 20040107 | EP 2002-724250   | 20020320 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |      |          |                  |          |
|      | EP 1377975  | A2   | 20040107 | EP 2002-727443   | 20020320 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |      |          |                  |          |
|      | EP 1377978  | A2   | 20040107 | EP 2002-737887   | 20020320 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |      |          |                  |          |
|      | CN 1515002  | A    | 20040721 | CN 2002-810906   | 20020320 |
|      | CN 1516872  | A    | 20040728 | CN 2002-810887   | 20020320 |
|      | JP 2004523395   | T2   | 20040805 | JP 2002-575938   | 20020320 |
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|      | TW 223252   | B1   | 20041101 | TW 2002-91105381 | 20020320 |
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| PRAI | DE 2001-10115227  | A    | 20010328 |                  |          |
|      | DE 2001-10117462  | A    | 20010406 |                  |          |
|      | DE 2001-10136063  | A    | 20010725 |                  |          |
|      | DE 2001-10136064  | A    | 20010725 |                  |          |
|      | DE 2002-10202571  | A    | 20020124 |                  |          |
|      | DE 2001-10117461  | A    | 20010406 |                  |          |
|      | DE 2001-10117463  | A    | 20010406 |                  |          |
|      | DE 2001-10117464  | A    | 20010406 |                  |          |

|                  |    |          |
|------------------|----|----------|
| DE 2001-10124585 | A  | 20010521 |
| DE 2001-10140165 | A  | 20010822 |
| EP 2001-123810   | A  | 20011004 |
| EP 2001-130527   | A  | 20011221 |
| DE 2002-10200484 | A  | 20020109 |
| EP 2002-5505     | A  | 20020311 |
| US 2002-101793   | A3 | 20020320 |
| WO 2002-EP3071   | W  | 20020320 |
| WO 2002-EP3094   | W  | 20020320 |
| WO 2002-EP3095   | W  | 20020320 |

# CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|---------------|-------|---|
| WO 2002077984 | ICM   | G11B007-24  |
|               | ICS   | C09B011-28; C07D311-82; C07D213-20  |
|               | IPCI  | G11B0007-24 [ICM,7]; C09B0011-28 [ICS,7]; C07D0311-82 [ICS,7]; C07D0213-20 [ICS,7]  |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09B069/02; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26 |
| DE 10115227   | IPCI  | G11B0007-24 [ICM,7]   |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26             |
| DE 10117462   | IPCI  | G11B0007-24 [ICM,7]   |
|               | ECLA  | C09B069/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/254; G11B007/26   |
| DE 10136063   | IPCI  | G11B0007-24 [ICM,7]   |
|               | ECLA  | C09B069/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/254; G11B007/26   |
| DE 10136064   | IPCI  | G11B0007-24 [ICM,7]   |
|               | ECLA  | C09B044/10; C09B069/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/254; G11B007/26   |
| DE 10202571   | IPCI  | G11B0007-24 [ICM,7]   |
|               | ECLA  | C09B069/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/254; G11B007/26   |
| US 2002155381 | IPCI  | G11B0007-24 [ICM,7]   |
|               | NCL   | 430/270.150   |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26             |
| WO 2002086878 | IPCI  | G11B0007-24 [ICM,7]; C09B0069-10 [ICS,7]  |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26             |
| US 2003096192 | IPCI  | G11B0007-24 [ICM,7]; C07D0311-88 [ICS,7]  |
|               | NCL   | 430/270.150   |
|               | ECLA  | C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09B069/02; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26 |
| EP 1377974    | IPCI  | G11B0007-24 [ICM,7]; C09B0011-28 [ICS,7]; C07D0311-82   |



[ICS,7]; C07D0213-20 [ICS,7]

EP 1377975 IPCI G11B0007-24 [ICM,7]

EP 1377978 IPCI G11B0007-24 [ICM,7]; C09B0069-10 [ICS,7]

CN 1515002 IPCI G11B0007-24 [ICM,7]; C09B0069-10 [ICS,7]

CN 1516872 IPCI G11B0007-24 [ICM,7]; C09B0011-28 [ICS,7]; C07D0311-82 [ICS,7]; C07D0213-20 [ICS,7]

JP 2004523395 IPCI B41M0005-26 [ICM,7]

FTERM 2H111/EA03; 2H111/EA37; 2H111/EA39; 2H111/FA01; 2H111/FA11; 2H111/FA12; 2H111/FA14; 2H111/FA15; 2H111/FB42

JP 2004524198 IPCI B41M0005-26 [ICM,7]; G11B0007-24 [ICS,7]; G11B0007-26 [ICS,7]

FTERM 2H111/EA03; 2H111/EA12; 2H111/EA22; 2H111/EA32; 2H111/FA01; 2H111/FA12; 2H111/FA14; 2H111/FA21; 2H111/FA37; 2H111/FB42; 2H111/FB43; 2H111/FB46; 2H111/FB50; 2H111/GA02; 2H111/GA07; 5D029/JA04; 5D029/JC01; 5D121/AA01; 5D121/AA03; 5D121/JJ07

TW 223252 IPCI G11B0007-24 [ICM,7]

JP 2004534344 IPCI G11B0007-24 [ICM,7]; B41M0005-26 [ICS,7]; C09B0023-00 [ICS,7]; G11B0007-26 [ICS,7]

FTERM 2H111/EA03; 2H111/EA12; 2H111/EA22; 2H111/EA25; 2H111/EA32; 2H111/EA43; 2H111/FA01; 2H111/FA14; 2H111/FA15; 2H111/FA21; 2H111/FB44; 2H111/FB45; 2H111/GA02; 2H111/GA03; 2H111/GA07; 4H056/CA01; 4H056/CA02; 4H056/CC05; 4H056/CC08; 4H056/CD05; 4H056/CE03; 4H056/CE07; 4H056/DD03; 4H056/DD07; 4H056/DD15; 4H056/DD19; 4H056/DD29; 5D029/JA04; 5D029/JB28; 5D029/JB46; 5D029/JB47; 5D029/LA02; 5D029/LA11; 5D029/LB07; 5D029/LB12; 5D029/LB17; 5D029/LC08; 5D121/AA01; 5D121/AA04; 5D121/EE02; 5D121/EE03; 5D121/EE22

US 2005042407 IPCI B32B0003-02 [ICM,7]

NCL 428/064.400

ECLA C07D217/14; C07D221/04B; C07D311/12; C07D311/80; C07D455/04; C07D491/04+311B+221B; C07F015/06B; C09B023/00S; C09B023/04; C09B023/10B; C09B029/00H2; C09B029/00H10; C09B029/36; C09B044/10; C09B047/04B; C09B047/08B; C09B047/26; C09B069/02; C09K009/02; G11B007/0045R; G11B007/24; G11B007/244; G11B007/247; G11B007/248; G11B007/249; G11B007/254; G11B007/26

OS MARPAT 137:286546

AB The invention relates to an \*\*\*optical\*\*\* data carrier contg. a preferably transparent substrate which has optionally been coated with at least one reflection layer. An \*\*\*information\*\*\* layer which can be written with light, optionally at least one reflection layer and optionally a protective layer or another substrate or a covering layer are applied to the surface of the substrate. The data carrier can be written and read with blue or red light, preferably \*\*\*laser\*\*\* light. The \*\*\*information\*\*\* layer contains at least one xanthene dye contg. at least two anionic groups and having, as a counterion, at least one cation contg. at least one conjugated .pi.-system having at least 6 .pi.-electrons as a light-absorbing compd.; the layer optionally contains a binding agent. The dye cation cannot be benzyltrimethylammonium, benzyltriethylammonium, tetraphenylphosphonium, butyltriphenylphosphonium and ethyltriphenylphosphonium. The xanthene dye has an absorption max. of 420-650 nm. The dyes, their prepn. and use, and the prepn. of the

\*\*\*optical\*\*\* data carrier are also claimed.

ST \*\*\*optical\*\*\* data carrier disk xanthene dye light absorber

IT \*\*\*Optical\*\*\* ROM disks

( \*\*\*optical\*\*\* data carriers contg. xanthene dyes as light-absorbing compd. in \*\*\*information\*\*\* recording layer)

IT Dyes

(xanthene; prepn. of xanthene dyes and use as light-absorbing compd. in \*\*\*information\*\*\* layer of \*\*\*optical\*\*\* data carriers)

IT 465544-25-6P 465544-27-8P 465544-28-9P 465544-29-0P 465544-30-3P

465544-31-4P 465544-32-5P 465544-34-7P 465544-35-8P 465544-36-9P

465544-37-0P 465544-39-2P 465544-41-6P 465544-42-7P 465544-43-8P

465544-44-9P 465544-46-1P 465544-47-2P 465544-49-4P 465544-51-8P

465544-52-9P 465544-54-1P 465544-56-3P 465544-59-6P 465544-61-0P

465544-63-2P 465544-64-3P 465544-67-6P 465547-82-4P 465547-83-5P

465547-85-7P 465547-86-8P 465547-88-0P 465547-89-1P

\*\*\*465547-91-5P\*\*\*

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (prepn. of xanthene dyes and use as light-absorbing compd. in  
 \*\*\*information\*\*\* layer of \*\*\*optical\*\*\* data carriers)  
 IT 1282-37-7, Ferrocenium tetrafluoroborate 465544-24-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (prepn. of xanthene dyes and use as light-absorbing compd. in  
 \*\*\*information\*\*\* layer of \*\*\*optical\*\*\* data carriers)  
 RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Ciba Geigy Ag; EP 0805441 A 1997 CAPLUS  
 (2) Ciba Geigy Ag; EP 0805441 A 1997 CAPLUS  
 (3) Edward Gurr Ltd; GB 1057594 A 1967 CAPLUS  
 (4) Edward Gurr Ltd; GB 1057594 A 1967 CAPLUS  
 (5) Ici Plc; EP 0542420 A 1993 CAPLUS  
 (6) Ici Plc; EP 0542420 A 1993 CAPLUS  
 (7) Neckers, D; US 4924009 A 1990 CAPLUS  
 (8) Neckers, D; US 4924009 A 1990 CAPLUS  
 (9) Sato, T; US 4656121 A 1987 CAPLUS  
 (10) Sato, T; US 4656121 A 1987 CAPLUS  
 (11) Wariishi, K; US 6020105 A 2000 CAPLUS  
 (12) Wariishi, K; US 6020105 A 2000 CAPLUS  
 L12 ANSWER 25 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2002:748357 CAPLUS  
 DN 137:286436  
 ED Entered STN: 03 Oct 2002  
 TI Light-sensitive resin composition for dry resist film developable with  
 visible light and resistant towards sand blasting and method for cutting  
 patterned material applied with the same according to sand blasting  
 IN Ueda, Shoji  
 PA Mitsubishi Rayon Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G03F007-029  
 ICS C08F002-44; C08F002-50; C08F283-00; C08F290-00; C08F299-06;  
 C08K005-00; C08K005-55; C08L075-14; C08L101-00; G03F007-004;  
 G03F007-027; G03F007-031; G03F007-032; G03F007-40  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 FAN.CNT 1  

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE     |
|--------------------|------|----------|-----------------|----------|
| JP 2002287349      | A2   | 20021003 | JP 2001-87807   | 20010326 |
| PRAI JP 2001-87807 |      | 20010326 |                 |          |

 CLASS  

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| JP 2002287349 | ICM   | G03F007-029  |
|               | ICS   | C08F002-44; C08F002-50; C08F283-00; C08F290-00;<br>C08F299-06; C08K005-00; C08K005-55; C08L075-14;<br>C08L101-00; G03F007-004; G03F007-027; G03F007-031;<br>G03F007-032; G03F007-40  |
|               | IPCI  | G03F0007-029 [ICM,7]; C08F0002-44 [ICS,7]; C08F0002-50<br>[ICS,7]; C08F0283-00 [ICS,7]; C08F0290-00 [ICS,7];<br>C08F0299-06 [ICS,7]; C08K0005-00 [ICS,7]; C08K0005-55<br>[ICS,7]; C08L0075-14 [ICS,7]; C08L0101-00 [ICS,7];<br>G03F0007-004 [ICS,7]; G03F0007-027 [ICS,7];<br>G03F0007-031 [ICS,7]; G03F0007-032 [ICS,7]; G03F0007-40<br>[ICS,7] |

 OS MARPAT 137:286436  
 AB The title compn. contains a photopolymerizable urethane (meth)acrylate  
 having .gtoreq.2 (meth)acryloyl groups, an alkali solubilizable resin of  
 50-250 mg/KOH acid value, a borate compd., and a sensitizer dye, wherein  
 the borate compd. has structure(R1)(R2)(R3)(R4) B-.cntdot.Z ( R1-4 =  
 alkyl, alkenyl, aryl, etc.; Z = quaternary ammonium, quaternary  
 pyridinium, quaternary quinolinium). The compn. provides photoresist is  
 directly patterned with a \*\*\*laser\*\*\* beam and shows the good  
 resistance towards sand blasting to cut a patterned mother substrate with  
 sand blasting.

ST light sensitive resin compn dry resist film sand blasting  
IT Light-sensitive materials  
Photoresists  
Sandblasting  
(light-sensitive resin compn. for dry resist film developable with visible light and resistant towards sand blasting and method for cutting material applied with same according to sand blasting)  
IT 9004-38-0, KC 71 9050-31-1, HP 55 25086-15-1, Methacrylic acid/methyl methacrylate copolymer  
RL: TEM (Technical or engineered material use); USES (Uses)  
(alkali polymerizable resin; light-sensitive resin compn. for dry resist film developable with visible light and resistant towards sand blasting)  
IT \*\*\*118996-06-8\*\*\* 120307-06-4, Tetrabutylammonium butyltriphenylborate  
211675-36-4, Tetrabutylammonium butyltri(4-methyl-1-naphthyl)borate  
219125-19-6, Tetrabutylammonium butyltri(1-naphthyl)borate 219125-21-0  
219125-22-1, 3,7-Diamino-2,8-dimethyl-5-phenylphenazinium tetrafluoroborate  
RL: CAT (Catalyst use); USES (Uses)  
(borate compd.; light-sensitive resin compn. for dry resist film developable with visible light and resistant towards sand blasting)  
IT 989-38-8, Basic Red 1 \*\*\*4657-00-5\*\*\* , Basic Orange 22 12217-48-0, Basic Red 14  
RL: TEM (Technical or engineered material use); USES (Uses)  
(sensitizing dye; light-sensitive resin compn. for dry resist film developable with visible light and resistant towards sand blasting)  
IT 178359-46-1, KRM 7222 190673-86-0, Shikoh UV 9510EA 216680-53-4, UAS-C 9PMA 216680-57-8, Shikoh UT 2313 216680-60-3, Shikoh UV 9532  
RL: TEM (Technical or engineered material use); USES (Uses)  
(urethane acrylate; light-sensitive resin compn. for dry resist film developable with visible light and resistant towards sand blasting)

L12 ANSWER 26 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2002:606647 CAPLUS  
DN 137:177093  
ED Entered STN: 14 Aug 2002  
TI Photopolymerizable composition containing dye and organic borate  
photopolymerization initiator for photoimaging recording material  
IN Takashima, Masanobu; Matsumoto, Hirotaka  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 44 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese  
IC ICM G03F007-004  
ICS G03F007-004; C08F002-50; C08K005-00; C08L101-00; G03F007-027;  
G03F007-029; C09B023-00

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 35, 38, 41

FAN.CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE     |
|--------------------|------|----------|-----------------|----------|
| JP 2002229195      | A2   | 20020814 | JP 2001-25899   | 20010201 |
| PRAI JP 2001-25899 |      | 20010201 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| JP 2002229195 | ICM   | G03F007-004  |
|               | ICS   | G03F007-004; C08F002-50; C08K005-00; C08L101-00; G03F007-027; G03F007-029; C09B023-00  |
|               | IPCI  | G03F0007-004 [ICM,7]; G03F0007-004 [ICS,7]; C08F0002-50 [ICS,7]; C08K0005-00 [ICS,7]; C08L0101-00 [ICS,7]; G03F0007-027 [ICS,7]; G03F0007-029 [ICS,7]; C09B0023-00 [ICS,7] |

OS MARPAT 137:177093  
GI

AB The photopolymerizable compn. comprises a polymerizable compd. I (R1 = aliph., arom.; L1,2 = methine; Z1 = 5- or 6-membered N-contg. heterocyclyl; Y = substituent; n = 0, 1, 2; m = 0, 1, 2, 3; and X- anion) having an ethylenic unsatd. bond and a radical generator forming a radical upon reaction with the polymerizable compd. The radical generator is an org. borate represented by R11R12R13R14B- G+ (R11-14 = aliph., arom., heterocyclyl, etc.; and G+ = cation). The photoimaging recording material comprises a color-forming component (A) encapsulated in a microcapsule and a color-forming component (B) which includes the photopolymerizable compd. The photopolymerizable compn. showed high sensitivity not only to UV light but also to light ranging from visible to IR light.

ST photopolymerizable compn dye org borate photopolymn initiator photoimaging recording; methine dye photopolymerizable compn

IT Cyanine dyes  
 \*\*\*Optical\*\*\* recording materials  
 (photopolymerizable compn. contg. dye and org. borate photopolymn. initiator for photoimaging recording material)

IT Photoimaging materials  
 (photopolymerizable; photopolymerizable compn. contg. dye and org. borate photopolymn. initiator for photoimaging recording material)

IT Polymerization catalysts  
 (photopolymn.; photopolymerizable compn. contg. dye and org. borate photopolymn. initiator for photoimaging recording material)

IT \*\*\*446233-08-5\*\*\* \*\*\*446233-14-3\*\*\* \*\*\*446233-16-5\*\*\*  
 \*\*\*446233-19-8\*\*\* \*\*\*446233-22-3\*\*\* \*\*\*446233-25-6\*\*\*  
 446233-29-0 446233-33-6 \*\*\*446233-35-8\*\*\*  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (dye; photopolymerizable compn. contg. dye and org. borate photopolymn. initiator for photoimaging recording material)

IT 110586-14-6P, Benzyl methacrylate-methacrylic acid-pentaerythritol tetraacrylate copolymer  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photopolymerizable compn. contg. dye and org. borate photopolymn. initiator for photoimaging recording material)

IT 191726-69-9 225107-27-7  
 RL: CAT (Catalyst use); USES (Uses)  
 (photopolymn. initiator; photopolymerizable compn. contg. dye and org. borate photopolymn. initiator for photoimaging recording material)

L12 ANSWER 27 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:384437 CAPLUS

DN 136:409011

ED Entered STN: 23 May 2002

TI Azaindolizine photosensitizer, visible light-curable photoimaging composition, and \*\*\*laser\*\*\* imaging application

IN Ogiso, Akira; Nakagawa, Shinichi; Kiyono, Kazuhiro; Misawa, Tsutayoshi; Shimamura, Takehiko

PA Mitsui Chemicals Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 30 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09K003-00  
 ICS C07D471-04; C08F002-50; C09B023-00; G03F007-004; G03F007-027; G03F007-028; G03F007-031

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38

FAN.CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------------|------|----------|-----------------|----------|
| JP 2002146334       | A2   | 20020522 | JP 2000-346577  | 20001114 |
| PRAI JP 2000-346577 |      | 20001114 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| JP 2002146334 | ICM   | C09K003-00   |
|               | ICS   | C07D471-04; C08F002-50; C09B023-00; G03F007-004; G03F007-027; G03F007-028; G03F007-031 |

IPCI C09K0003-00 [ICM,7]; C07D0471-04 [ICS,7]; C08F0002-50  
[ICS,7]; C09B0023-00 [ICS,7]; G03F0007-004 [ICS,7];  
G03F0007-027 [ICS,7]; G03F0007-028 [ICS,7];  
G03F0007-031 [ICS,7]

OS MARPAT 136:409011  
GI

/ Structure 17 in file .gra /

AB The invention relates to an azaindolizine photosensitizer represented by  
general formula I (R1-8 = H, alkyl, aralkyl, aryl, alkenyl, alkoxy,  
aralkyloxy, aryloxy, alkenyloxy, alkylthio, aralkylthio, arylthio,  
heterocyclyl, heterocyclyloxy, heterocyclylthio, amino; X- = anion; Y = H,  
alkyl, arylalkyl, aryl, alkenyl; Z = alkyl, arylalkyl, aryl, alkenyl; M =  
O, S). The visible light-curable photoimaging compn. comprises (A)  
photocurable resins, (B) photoinitiators, (C) azaindolizine  
photosensitizers, and (D) radical-protecting agents. The photoimaging  
compn. shows improved stability under 500-620 nm normal light conditions.

ST azaindolizine photosensitizer visible light curable photoimaging compn dry  
photoresist

IT Negative photoresists  
Photoimaging  
(azaindolizine photosensitizer, visible light-curable photoimaging  
compn., and \*\*\*laser\*\*\* imaging application)

IT Photoresists  
(dry-film; azaindolizine photosensitizer, visible light-curable  
photoimaging compn., and \*\*\*laser\*\*\* imaging application)

IT Crosslinking agents  
(photochem.; azaindolizine photosensitizer, visible light-curable  
photoimaging compn., and \*\*\*laser\*\*\* imaging application)

IT Photoimaging materials  
(photopolymerizable; azaindolizine photosensitizer, visible  
light-curable photoimaging compn., and \*\*\*laser\*\*\* imaging  
application)

IT Polymerization catalysts  
(photopolymn.; azaindolizine photosensitizer, visible light-curable  
photoimaging compn., and \*\*\*laser\*\*\* imaging application)

IT 428510-66-1 \*\*\*428510-67-2\*\*\* \*\*\*428510-68-3\*\*\*  
\*\*\*428510-69-4\*\*\* \*\*\*428510-71-8\*\*\* \*\*\*428510-72-9\*\*\*  
\*\*\*428510-74-1\*\*\* \*\*\*428510-76-3\*\*\* \*\*\*428510-78-5\*\*\*  
\*\*\*428510-80-9\*\*\* \*\*\*428510-82-1\*\*\* \*\*\*428510-85-4\*\*\*  
\*\*\*428510-87-6\*\*\* \*\*\*428510-88-7\*\*\* \*\*\*428510-89-8\*\*\*  
428510-91-2 \*\*\*428510-92-3\*\*\* \*\*\*428510-94-5\*\*\*  
\*\*\*428510-95-6\*\*\*

RL: MOA (Modifier or additive use); USES (Uses)  
(azaindolizine photosensitizer in visible light-curable photoimaging  
compn. suitable for \*\*\*laser\*\*\* imaging application)

IT \*\*\*428510-65-0P\*\*\*

RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP  
(Preparation); USES (Uses)  
(azaindolizine photosensitizer in visible light-curable photoimaging  
compn. suitable for \*\*\*laser\*\*\* imaging application)

IT 15625-89-5, Trimethylolpropane triacrylate 91601-64-8, Acrylic  
acid-glycidyl methacrylate-methyl methacrylate-styrene copolymer  
142627-97-2 178253-67-3, Benzyl methacrylate-hydroxyphenyl  
methacrylate-methacrylic acid-methyl methacrylate copolymer 428510-96-7,  
Acrylic acid-butyl acrylate-2-(dimethylamino)ethyl methacrylate-glycidyl  
methacrylate-styrene copolymer

RL: TEM (Technical or engineered material use); USES (Uses)  
(in visible light-curable photoimaging compn. suitable for  
\*\*\*laser\*\*\* imaging application)

IT 33943-20-3, Di-tert-butyl peroxy isophthalate 77473-08-6,  
3,3',4,4'-Tetra(tert-butylperoxycarbonyl)benzophenone 85342-62-7  
125051-32-3

RL: CAT (Catalyst use); USES (Uses)  
(photoinitiator in visible light-curable photoimaging compn. suitable  
for \*\*\*laser\*\*\* imaging application)

IT 3672-39-7 5260-37-7

RL: RCT (Reactant); RACT (Reactant or reagent)  
(prepn. of azaindolizine photosensitizer in visible light-curable  
photoimaging compn. suitable for \*\*\*laser\*\*\* imaging application)  
IT 121-69-7, N,N-Dimethylaniline, uses 122-52-1, Triethyl phosphite  
RL: TEM (Technical or engineered material use); USES (Uses)  
(radical-protecting agent in visible light-curable photoimaging compn.  
suitable for \*\*\*laser\*\*\* imaging application)

L12 ANSWER 28 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:314902 CAPLUS

DN 136:306432

ED Entered STN: 26 Apr 2002

TI Dynamic organ function monitoring agents

IN Achilefu, Samuel; Rajagopalan, Raghavan; Dorshow, Richard B.; Bugaj,  
Joseph E.; Jimenez, Hermo N.

PA Mallinckrodt Inc., USA

SO PCT Int. Appl., 56 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07D

CC 9-14 (Biochemical Methods)

Section cross-reference(s): 14

FAN.CNT 1

|      | PATENT NO.      | KIND   | DATE     | APPLICATION NO. | DATE     |
|------|-----------------|--|----------|-----------------|----------|
| PI   | WO 2002032860   | A2   | 20020425 | WO 2001-US31716 | 20011005 |
|      | WO 2002032860   | A3   | 20021017 |                 |          |
|      | W:              | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |          |                 |          |
|      | RW:             | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG   |          |                 |          |
|      | US 6663847      | B1   | 20031216 | US 2000-687428  | 20001016 |
|      | CA 2425718      | AA   | 20020425 | CA 2001-2425718 | 20011005 |
|      | AU 2002016622   | A5   | 20020429 | AU 2002-16622   | 20011005 |
|      | EP 1326651      | A2   | 20030716 | EP 2001-987741  | 20011005 |
|      | R:              | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |          |                 |          |
|      | JP 2004525863   | T2   | 20040826 | JP 2002-536044  | 20011005 |
|      | US 2003202941   | A1   | 20031030 | US 2003-436759  | 20030513 |
|      | US 6887854      | B2   | 20050503 |                 |          |
|      | US 2005163715   | A1   | 20050728 | US 2005-82598   | 20050317 |
| PRAI | US 2000-687428  | A  | 20001016 |                 |          |
|      | WO 2001-US31716 | W  | 20011005 |                 |          |
|      | US 2003-436759  | A1   | 20030513 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| WO 2002032860 | ICM   | C07D   |
|               | IPCI  | C07D [ICM,7]   |
|               | ECLA  | C07D209/08; C07D209/08B; C07D209/12; C07D209/60; C07D405/14+309+209C+209C; C07D405/14+309+209+209  |
| US 6663847    | IPCI  | A61B0010-00 [ICM,7]; A61B0005-00 [ICS,7]; A61B0008-00 [ICS,7]  |
|               | NCL   | 424/009.600; 424/001.110; 424/009.100  |
|               | ECLA  | C07D209/08; C07D209/08B; C07D209/12; C07D209/60; C07D405/14+309+209+209; C07D405/14+309+209C+209C  |
| CA 2425718    | IPCI  | A61K0051-00 [ICM,7]; A61M0036-14 [ICS,7]   |
| AU 2002016622 | IPCI  | C07D [ICM,7]   |
| EP 1326651    | IPCI  | A61K0051-00 [ICM,7]  |
| JP 2004525863 | IPCI  | A61K0049-00 [ICM,7]; C07D0209-60 [ICS,7]; C07H0015-26 [ICS,7]  |
|               | FTERM | 4C057/BB02; 4C057/CC01; 4C057/DD02; 4C057/JJ22; 4C085/HH11; 4C085/KB56; 4C085/KB78; 4C085/LL01; 4C085/LL07; 4C085/LL11; 4C204/BB01; 4C204/BB09; 4C204/CB12; 4C204/DB03; 4C204/FB23; 4C204/GB01 |
| US 2003202941 | IPCI  | A61K0049-00 [ICM,7]; A61K0031-7052 [ICS,7];  |

A61K0031-405 [ICS,7]; A61K0051-00 [ICS,7]; A61K0038-16 [ICS,7]; C07K0005-04 [ICS,7]; C07D0043-02 [ICS,7]  
 NCL 424/009.600  
 ECLA C07D209/08; C07D209/08B; C07D209/12; C07D209/60; C07D405/14+309+209+209; C07D405/14+309+209C+209C  
 US 2005163715 IPCI A61K0049-00 [ICM,7]  
 NCL 424/009.600  
 ECLA C07D209/08; C07D209/08B; C07D209/12; C07D209/60; C07D405/14+309+209+209; C07D405/14+309+209C+209C  
 OS MARPAT 136:306432  
 AB The invention concerns novel dyes contg. multiple hydrophilic moieties and their use as diagnostic agents for assessing organ function. The ease of modifying the clearance pathways of the dyes after in vivo administration permits their use for physiol. monitoring. These highly hydrophilic indole and benzoindole derivs. absorb and fluoresce in the visible region of light. Particularly, the mols. of the invention are useful for  
 \*\*\*optical\*\*\* diagnosis of renal and cardiac diseases and for estn. of blood vol. in vivo.  
 ST diagnosis renal cardiac organ function blood clearance monitoring agent  
 IT Blood plasma  
 (clearance; dynamic organ function monitoring agents)  
 IT Blood analysis  
 Diagnosis  
 Fluorometry  
 Heart, disease  
 Kidney, disease  
 Light  
 Mammalia  
 (dynamic organ function monitoring agents)  
 IT Heart  
 Kidney  
 (function monitoring; dynamic organ function monitoring agents)  
 IT Organ, animal  
 (perfusion of; dynamic organ function monitoring agents)  
 IT Blood  
 (volume; dynamic organ function monitoring agents)  
 IT 76578-90-0P 76588-81-3P 95837-47-1P 262283-52-3P 351439-57-1P  
 410525-49-4P 410525-56-3P 410525-58-5P 410525-59-6P 410525-60-9P  
 \*\*\*410525-62-1P\*\*\*  
 RL: DGN (Diagnostic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (dynamic organ function monitoring agents)

L12 ANSWER 29 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2002:314799 CAPLUS  
 DN 136:306431  
 ED Entered STN: 26 Apr 2002  
 TI Light sensitive compounds for instant determination of organ function  
 IN Achilefu, Samuel; Rajagopalan, Raghavan; Dorshow, Richard B.; Bugaj, Joseph E.; Jimenez, Hermo N.  
 PA Mallinckrodt Inc., USA  
 SO PCT Int. Appl., 55 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A61K049-00  
 CC 9-14 (Biochemical Methods)  
 Section cross-reference(s): 14

FAN.CNT 2

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| WO 2002032466   | A1   | 20020425 | WO 2001-US31722 | 20011005 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM<br>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG |      |          |                 |          |
| US 6673334  | B1   | 20040106 | US 2000-688942  | 20001016 |

|  |    |          |                 |          |
|--|----|----------|-----------------|----------|
| CA 2425705   | AA | 20020425 | CA 2001-2425705 | 20011005 |
| AU 2002011618  | A5 | 20020429 | AU 2002-11618   | 20011005 |
| EP 1326647   | A1 | 20030716 | EP 2001-979683  | 20011005 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR |    |          |                 |          |
| JP 2004511531  | T2 | 20040415 | JP 2002-535702  | 20011005 |
| PRAI US 2000-688942  | A  | 20001016 |                 |          |
| WO 2001-US31722  | W  | 20011005 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| WO 2002032466 | ICM   | A61K049-00   |
|               | IPCI  | A61K0049-00 [ICM,7]  |
|               | ECLA  | A61K049/00P4F; C09B023/02  |
| US 6673334    | IPCI  | A61B0010-00 [ICM,7]; A61B0005-00 [ICS,7]; A61B0008-00 [ICS,7]                                  |
|               | NCL   | 424/009.600; 424/001.110; 424/001.650; 424/009.100; 514/408.000; 514/410.000; 514/411.000      |
|               | ECLA  | A61K049/00P4F; C09B023/02  |
| CA 2425705    | IPCI  | A61K0049-00 [ICM,7]  |
| AU 2002011618 | IPCI  | A61K0049-00 [ICM,7]  |
| EP 1326647    | IPCI  | A61K0049-00 [ICM,7]  |
| JP 2004511531 | IPCI  | A61K0049-00 [ICM,7]  |
|               | FTERM | 4C085/HH11; 4C085/HH17; 4C085/KA27; 4C085/KB56; 4C085/KB79; 4C085/LL01; 4C085/LL07; 4C085/LL11 |

OS MARPAT 136:306431

AB The invention concerns novel dyes contg. multiple hydrophilic moieties and their use as diagnostic agents for assessing organ function. The ease of modifying the clearance pathways of the dyes after in vivo administration permits their use for physiolo. monitoring. These highly hydrophilic indole and benzoindole derivs. absorb and fluoresce in the visible region of light. Particularly, the mols. of the invention are useful for  
\*\*\*optical\*\*\* diagnosis of renal and cardiac diseases and for estn. of blood vol. in vivo.

ST diagnosis renal cardiac organ function blood clearance monitoring agent  
IT Heart

Kidney  
(function monitoring; light sensitive compds. for instant detn. of organ function)

IT Blood analysis  
Blood plasma  
Diagnosis  
Fluorometry  
Heart, disease  
Kidney, disease  
Light  
Mammalia  
(light sensitive compds. for instant detn. of organ function)

IT Organ, animal  
(perfusion of; light sensitive compds. for instant detn. of organ function)

IT Blood  
(volume; light sensitive compds. for instant detn. of organ function)

IT 76578-90-0P 76588-81-3P 95837-47-1P 262283-52-3P 351439-57-1P  
410525-49-4P 410525-56-3P 410525-58-5P 410525-59-6P 410525-60-9P  
\*\*\*410525-62-1P\*\*\*

RL: DGN (Diagnostic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(light sensitive compds. for instant detn. of organ function)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE  
(1) Ogawa; US 5496689 A 1996 CAPLUS  
(2) Ohno; US 5106990 A 1992 CAPLUS

L12 ANSWER 30 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:314797 CAPLUS

DN 136:306430

ED Entered STN: 26 Apr 2002

TI Novel dyes for organ function monitoring

IN Achilefu, Samuel; Rajagopalan, Raghavan; Dorshow, Richard B.; Bugaj, Joseph E.

PA Mallinckrodt Inc., USA



SO PCT Int. Appl., 58 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A61K049-00  
 ICS C07D209-04  
 CC 9-14 (Biochemical Methods)  
 Section cross-reference(s): 14  
 FAN.CNT 2

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | WO 2002032464   | A1   | 20020425 | WO 2001-US31718 | 20011005 |
|      | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |          |
|      | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |          |
|      | US 6656451  | B1   | 20031202 | US 2000-688947  | 20001016 |
|      | CA 2425703  | AA   | 20020425 | CA 2001-2425703 | 20011005 |
|      | AU 2002013099   | A5   | 20020429 | AU 2002-13099   | 20011005 |
|      | EP 1326648  | A1   | 20030716 | EP 2001-981459  | 20011005 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |      |          |                 |          |
|      | JP 2004513893   | T2   | 20040513 | JP 2002-535700  | 20011005 |
| PRAI | US 2000-688947  | A    | 20001016 |                 |          |
|      | WO 2001-US31718   | W    | 20011005 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| WO 2002032464 | ICM   | A61K049-00   |
|               | ICS   | C07D209-04   |
|               | IPCI  | A61K0049-00 [ICM,7]; C07D0209-04 [ICS,7]   |
|               | ECLA  | A61K049/00P4F; C07D209/08B; C09B023/00D; C09B023/00R; C09B023/02   |
| US 6656451    | IPCI  | A61B0010-00 [ICM,7]; A61B0005-00 [ICS,7]; A61B0008-00 [ICS,7]  |
|               | NCL   | 424/009.600; 424/001.110; 424/001.650; 424/009.100; 514/411.000  |
|               | ECLA  | A61K049/00P4F; C09B023/00R; C09B023/02; C07D209/08B; C09B023/00D   |
| CA 2425703    | IPCI  | A61K0049-00 [ICM,7]; C07D0209-04 [ICS,7]   |
| AU 2002013099 | IPCI  | A61K0049-00 [ICM,7]; C07D0209-04 [ICS,7]   |
| EP 1326648    | IPCI  | A61K0049-00 [ICM,7]; C07D0209-04 [ICS,7]   |
| JP 2004513893 | IPCI  | A61K0049-00 [ICM,7]; C09B0023-00 [ICS,7]   |
|               | FTERM | 4C085/HH11; 4C085/HH13; 4C085/KB56; 4C085/LL07; 4C085/LL11; 4H056/CA01; 4H056/CC02; 4H056/CC08; 4H056/CE03; 4H056/CE06; 4H056/DD03 |

OS MARPAT 136:306430

AB The invention concerns novel dyes contg. multiple hydrophilic moieties and their use as diagnostic agents for assessing organ function. The ease of modifying the clearance pathways of the dyes after in vivo administration permits their use for physiol. monitoring. These highly hydrophilic indole and benzoindole derivs. absorb and fluoresce in the visible region of light. Particularly, the mols. of the invention are useful for \*\*\*optical\*\*\* diagnosis of renal and cardiac diseases and for estn. of blood vol. in vivo.

ST diagnosis renal cardiac organ function blood clearance monitoring agent

IT Heart

Kidney

(function monitoring; novel dyes for organ function monitoring)

IT Blood analysis

Blood plasma

Diagnosis

Fluorometry

Heart, disease

Kidney, disease

Light

Mammalia

(novel dyes for organ function monitoring)  
IT Organ, animal  
(perfusion of; novel dyes for organ function monitoring)  
IT Blood  
(volume; novel dyes for organ function monitoring)  
IT 76578-90-0P 76588-81-3P 95837-47-1P 262283-52-3P 351439-57-1P  
410525-49-4P 410525-56-3P 410525-58-5P 410525-59-6P 410525-60-9P  
\*\*\*410525-62-1P\*\*\*  
RL: DGN (Diagnostic use); SPN (Synthetic preparation); BIOL (Biological  
study); PREP (Preparation); USES (Uses)  
(novel dyes for organ function monitoring)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE  
(1) Anon; Registry No 259261-66-0  
(2) Lee; US 5453505 A 1995 CAPLUS

L12 ANSWER 31 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2002:31082 CAPLUS  
DN 136:87233  
ED Entered STN: 11 Jan 2002  
TI Styryl dyes, their production and their use  
IN Kasada, Chiaki; Koyama, Yoshinori; Kawata, Toshio; Yasui, Shigeo  
PA Kabushiki Kaisha Hayashibara Seibutsu Kagaku Kenkyujo, Japan  
SO Eur. Pat. Appl., 38 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
IC ICM C09B069-02  
ICS C09B023-14; G11B007-24  
ICA C09B045-20; C09B045-22  
CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
Sensitizers)

FAN.CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
-----  
PI EP 1170339 A2 20020109 EP 2001-305760 20010704  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO  
JP 2002206061 A2 20020726 JP 2001-126671 20010424  
US 2002028918 A1 20020307 US 2001-898322 20010705  
PRAI JP 2000-203873 A 20000705  
JP 2000-342427 A 20001109  
JP 2001-126671 A 20010424

CLASS  
PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES  
-----  
EP 1170339 ICM C09B069-02  
ICS C09B023-14; G11B007-24  
ICA C09B045-20; C09B045-22  
IPCI C09B0069-02 [ICM,6]; C09B0023-14 [ICS,6]; G11B0007-24  
[ICS,6]; C09B0045-20 [ICA,6]; C09B0045-22 [ICA,6]  
ECLA C09B069/04B  
JP 2002206061 IPCI C09B0069-02 [ICM,7]; B41M0005-26 [ICS,7]; C09B0023-00  
[ICS,7]; C09B0045-14 [ICS,7]; C09B0045-20 [ICS,7];  
C09B0045-22 [ICS,7]; C09K0003-00 [ICS,7]; G11B0007-24  
[ICS,7]  
US 2002028918 IPCI C09B0029-00 [ICM,7]  
NCL 534/693.000  
ECLA C09B069/04B

OS MARPAT 136:87233  
AB Disclosed are novel styryl dyes, and light absorbents, light-resistance  
improvers, and \*\*\*optical\*\*\* recording media, which comprise the  
styryl dyes. The dyes have satisfactory solubilities in  
2,2,3,3-tetrafluoro-1-propanol at 20.degree. and relatively high light  
resistance when used in high-d. \*\*\*optical\*\*\* recording media. The  
dye compns. are prepd. from cationic indolium styryl dyes and anionic azo  
dye-metal complexes.  
ST cationic styryl anionic azo metal complex dye prodn; indolium styryl dye  
light resistant \*\*\*optical\*\*\* recording media  
IT Cyanine dyes  
(indolium; prodn. of light-resistant styryl dyes for \*\*\*optical\*\*\*  
recording)

IT \*\*\*Optical\*\*\* recording materials  
 (prodn. of light-resistant styryl dyes for \*\*\*optical\*\*\* recording)

IT Azo dyes  
 (water-sol., metal complex; in prodn. of light-resistant styryl dyes  
 for \*\*\*optical\*\*\* recording)

IT 137147-59-2 387345-09-7 387391-96-0 \*\*\*387391-98-2\*\*\*  
 387391-99-3 387392-00-9 387392-01-0 387392-03-2 387392-04-3  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (dye; light-resistant styryl dyes for \*\*\*optical\*\*\* recording)

IT 387391-89-1P 387391-90-4P 387391-91-5P 387391-92-6P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (green dye; prodn. of light-resistant styryl dyes for \*\*\*optical\*\*\*  
 recording)

IT 6307-03-5 95654-83-4 220487-90-1 330442-57-4 387345-08-6  
 387391-93-7 387391-94-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (starting material; prodn. of light-resistant styryl dyes for  
 \*\*\*optical\*\*\* recording)

L12 ANSWER 32 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2001:903400 CAPLUS  
 DN 136:38848  
 ED Entered STN: 14 Dec 2001  
 TI Hemicyanine dyes, their manufacture and use in \*\*\*optical\*\*\* recording  
 media  
 IN Je, Jong Tae; Lee, Kyu Youn; Huh, Young Jae  
 PA Samsung Electronics Co., Ltd., S. Korea  
 SO Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC C09B023-00; C09B023-00; B41M005-26; G11B007-24  
 CC 41-8 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
 Sensitizers)  
 Section cross-reference(s): 74

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 2001342365 | A2   | 20011214 | JP 2001-91225   | 20010327 |
|      | US 2001053429 | A1   | 20011220 | US 2001-824136  | 20010403 |
| PRAI | KR 2000-23733 | A    | 20000503 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES                 |
|---------------|-------|--|
| JP 2001342365 | IC    | C09B023-00; C09B023-00; B41M005-26; G11B007-24     |
|               | IPCI  | C09B0023-00; C09B0023-00; B41M0005-26; G11B0007-24 |
| US 2001053429 | IPCI  | B32B0003-02 [ICM,7]                                |
|               | NCL   | 428/064.400  |
|               | ECLA  | C09B023/10   |

OS MARPAT 136:38848  
 GI

/ Structure 18 in file .gra /

AB The dyes are of I type compds. (Z = benzene, naphthalene, anthracene ring;  
 X1 = S, O, Se, NR, CMe2; X2 = S, NR, O where R = H, C1-5 alkyl; R1 = H,  
 halogen, C1-3 alkyl, nitro group; R2, R5 = C1-5 alkyl; R3, R4 = H, OH,  
 C1-4 alkyl, halogen, halide; Y = Cl, Br, I, ClO4, BF4, BrO4, PF6, CH3SO3,  
 CF3SO3, 4-CH3C6H4SO3, C6H5SO3, 6-SO3C10H6SO3, HSO4; n = 0, 2; m = 1, 2)  
 and useful for \*\*\*optical\*\*\* recording media such as CD-R and DVD-R.  
 Thus, heating 1 equiv 5-bromo-2-thiophenecarboxyaldehyde in DMF with 1-2  
 drops of Aliquat 336 (quaternary ammonium compd.) and 10 equiv  
 diethylamine at 110.degree. for 5 days at reflux gave a red product, i.e.,  
 5-diethylamino-2-thiophenecarboxyaldehyde which was coupled with  
 1-methyl-2,3,3-trimethylpseudoindolium iodide in EtOH in the presence of 1  
 drop of piperidine to give a title dye.

ST compact disk recording medium hemicyanine dye manuf; DVD disk  
 \*\*\*optical\*\*\* recording medium hemicyanine dye manuf; CD disk  
 \*\*\*optical\*\*\* recording medium hemicyanine dye manuf

IT Polycarbonates, properties  
 RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (disk substrates; hemicyanine dyes, manuf. and use in \*\*\*optical\*\*\* recording medium)

IT Dyes  
 \*\*\*Optical\*\*\* disks  
 (hemicyanine dyes, manuf. and use in \*\*\*optical\*\*\* recording medium)

IT Quaternary ammonium compounds, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (tri-C8-10-alkylmethyl, chlorides; hemicyanine dyes, manuf. and use in \*\*\*optical\*\*\* recording medium)

IT 5496-71-9, IRG 022  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (UV absorbent for \*\*\*optical\*\*\* disks; hemicyanine dyes, manuf. and use in \*\*\*optical\*\*\* recording medium)

IT \*\*\*372081-16-8P\*\*\*      \*\*\*372081-17-9P\*\*\*      \*\*\*372081-18-0P\*\*\*  
 \*\*\*372081-20-4P\*\*\*      \*\*\*372081-22-6P\*\*\*      \*\*\*372081-23-7P\*\*\*  
 \*\*\*372081-24-8P\*\*\*      \*\*\*372081-26-0P\*\*\*      \*\*\*372081-27-1P\*\*\*  
 \*\*\*372081-28-2P\*\*\*      \*\*\*372081-29-3P\*\*\*      \*\*\*372081-31-7P\*\*\*  
 \*\*\*372081-35-1P\*\*\*      \*\*\*372081-36-2P\*\*\*      \*\*\*372081-37-3P\*\*\*  
 \*\*\*372081-38-4P\*\*\*      \*\*\*372081-40-8P\*\*\*      \*\*\*372081-41-9P\*\*\*  
 \*\*\*372081-43-1P\*\*\*      \*\*\*372081-44-2P\*\*\*      \*\*\*372081-45-3P\*\*\*  
 \*\*\*372081-47-5P\*\*\*      \*\*\*372081-48-6P\*\*\*      \*\*\*372081-49-7P\*\*\*  
 \*\*\*372081-51-1P\*\*\*      \*\*\*372081-52-2P\*\*\*      \*\*\*372081-53-3P\*\*\*  
 \*\*\*372081-55-5P\*\*\*      \*\*\*372081-56-6P\*\*\*      \*\*\*372081-57-7P\*\*\*  
 \*\*\*380496-81-1P\*\*\*      \*\*\*380496-85-5P\*\*\*  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (dye; hemicyanine dyes, manuf. and use in \*\*\*optical\*\*\* recording medium)

IT 7601-90-3, Perchloric acid, reactions 7647-01-0, Hydrochloric acid, reactions 7664-93-9, Sulfuric acid, reactions 7697-37-2, Nitric acid, reactions 10035-10-6, Hydrogen bromide, reactions 16872-11-0 16940-81-1, Hydrogen hexafluorophosphate  
 RL: RGT (Reagent); RACT (Reactant or reagent)  
 (hemicyanine dyes, manuf. and use in \*\*\*optical\*\*\* recording medium)

IT 118-12-7P, 2-Methylene-1,3,3-trimethylindoline 5418-63-3P, 1,2,3,3-Tetramethylindolium iodide 51082-93-0P 58464-25-8P 62439-66-1P 86879-79-0P 372081-58-8P 372081-59-9P 372081-60-2P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (intermediate for dye; hemicyanine dyes, manuf. and use in \*\*\*optical\*\*\* recording medium)

IT 74-88-4, Iodomethane, reactions 75-03-6, Iodoethane 109-89-7, Diethylamine, reactions 120-75-2, 2-Methylbenzothiazole 142-84-7, Dipropylamine 1640-39-7, 2,3,3-Trimethyl indolenine 4701-17-1 26914-02-3, Iodopropane 41532-84-7 58464-23-6 92570-02-0 105757-68-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant for dye; hemicyanine dyes, manuf. and use in \*\*\*optical\*\*\* recording medium)

L12 ANSWER 33 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2001:814063 CAPLUS  
 DN 135:359145  
 ED Entered STN: 09 Nov 2001  
 TI Hemicyanine dyes and \*\*\*optical\*\*\* recording media using them  
 IN Je, Jong-Tae; Lee, Kyu-Youn; Huh, Young-Jae  
 PA Samsung Electronics Co., Ltd., S. Korea  
 SO Eur. Pat. Appl., 23 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC C09B023-00; G11B007-24; C07D209-14; C07D405-06  
 CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)  
 Section cross-reference(s): 74

FAN.CNT 1  
 PATENT NO.                      KIND      DATE                      APPLICATION NO.                      DATE

PI EP 1152038 A1 20011107 EP 2001-302848 20010327  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO  
PRAI KR 2000-3 A 20000503  
CLASS  
PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES  
EP 1152038 IC C09B023-00; G11B007-24; C07D209-14; C07D405-06  
IPCI C09B0023-00; G11B0007-24; C07D0209-14; C07D0405-06  
ECLA C09B023/10  
OS MARPAT 135:359145  
GI

/ Structure 19 in file .gra /

AB Hemicyanine dyes I [Z = benzene, naphthalene, or anthracene ring; X1 = S, O, Se, NR, CMe2; X2 = S, NR, O (R = H, C1-5-alkyl); R1 = H, halogen, C1-3-alkyl, NO2; R2, R5 = C1-5-alkyl; R3, R4 = H, OH, C1-4-alkyl, halogen; Y = Cl, Br, I, ClO4, BF4, BrO4, PF6, MeSO3, CF3SO3, 4-MeC6H4SO3, PhSO3, 6-SO3C10H6SO3, HSO4; n = 0-2; m = 1-2] are obtained for use with  
\*\*\*optical\*\*\* recording media. I are easy to synthesize in high yield.  
\*\*\*Optical\*\*\* recording media using I have improved recording characteristics in terms of jitter and modulation factor. In an example, a violet dye (.lambda.max 590 nm) was produced from 5-(diethylamino)-2-thiophenecarboxaldehyde and 1,2,3,3-tetramethylpseudoindolium iodide.  
ST hemicyanine dye prodn \*\*\*optical\*\*\* recording media application  
IT Cyanine dyes  
(hemicyanine; prodn. of hemicyanine dyes and their use in  
\*\*\*optical\*\*\* recording media)  
\* IT \*\*\*Optical\*\*\* recording materials  
(prod. of hemicyanine dyes and their use in)  
IT \*\*\*372081-32-8P\*\*\* \*\*\*372081-33-9P\*\*\*  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(dye; prodn. of hemicyanine dyes and their use in \*\*\*optical\*\*\* recording media)  
IT 5418-63-3P 22868-59-3P 51082-93-0P, 5-(Diethylamino)-2-thiophenecarboxaldehyde 62439-66-1P 86879-79-0P 92570-02-0P  
372081-58-8P 372081-59-9P 372081-60-2P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(intermediate; prodn. of hemicyanine dyes and their use in  
\*\*\*optical\*\*\* recording media)  
IT 74-88-4, Iodomethane, reactions 75-03-6, Iodoethane 109-89-7, Diethylamine, reactions 118-12-7, 2-Methylene-1,3,3-trimethylindoline 120-75-2, 2-Methylbenzothiazole 142-84-7, Dipropylamine 1899-24-7, 5-Bromo-2-furancarboxaldehyde 4701-17-1, 5-Bromo-2-thiophenecarboxaldehyde 6872-17-9, 5-Chloro-2-methylene-1,3,3-trimethylindoline 7601-90-3, Perchloric acid, reactions 7647-01-0, Hydrochloric acid, reactions 7664-93-9, Sulfuric acid, reactions 7697-37-2, Nitric acid, reactions 10035-10-6, Hydrobromic acid, reactions 13330-41-1 16872-11-0, Fluoroboric acid 16940-81-1, Hexafluorophosphoric acid 18781-58-3, 2,3,3-Trimethylindoline 26914-02-3, Iodopropane 31878-25-8 41532-84-7 58464-23-6 105757-68-4 372081-61-3 372081-62-4 372081-63-5 372081-64-6 372081-65-7 372081-66-8 372081-67-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; prodn. of hemicyanine dyes and their use in  
\*\*\*optical\*\*\* recording media)  
IT \*\*\*372081-16-8P\*\*\* \*\*\*372081-17-9P\*\*\* \*\*\*372081-18-0P\*\*\*  
\*\*\*372081-20-4P\*\*\* \*\*\*372081-21-5P\*\*\* \*\*\*372081-22-6P\*\*\*  
\*\*\*372081-23-7P\*\*\* \*\*\*372081-24-8P\*\*\* \*\*\*372081-26-0P\*\*\*  
\*\*\*372081-27-1P\*\*\* \*\*\*372081-28-2P\*\*\* \*\*\*372081-29-3P\*\*\*  
\*\*\*372081-31-7P\*\*\* \*\*\*372081-35-1P\*\*\* \*\*\*372081-36-2P\*\*\*  
\*\*\*372081-37-3P\*\*\* \*\*\*372081-38-4P\*\*\* \*\*\*372081-40-8P\*\*\*  
\*\*\*372081-41-9P\*\*\* \*\*\*372081-43-1P\*\*\* \*\*\*372081-44-2P\*\*\*  
\*\*\*372081-45-3P\*\*\* \*\*\*372081-47-5P\*\*\* \*\*\*372081-48-6P\*\*\*  
\*\*\*372081-49-7P\*\*\* \*\*\*372081-51-1P\*\*\* \*\*\*372081-52-2P\*\*\*  
\*\*\*372081-53-3P\*\*\* \*\*\*372081-55-5P\*\*\* \*\*\*372081-56-6P\*\*\*

\*\*\*372081-57-7P\*\*\*

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(violet dye; prodn. of hemicyanine dyes and their use in

\*\*\*optical\*\*\* recording media)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Agfa-Gevaert Ag; DE 2215829 A 1972 CAPLUS
- (2) Anon; PATENT ABSTRACTS OF JAPAN 1983, V007(238), PP-231
- (3) Anon; PATENT ABSTRACTS OF JAPAN 1997, V1997(12)
- (4) Anon; PATENT ABSTRACTS OF JAPAN 1998, V1998(11)
- (5) Asahi Denka Kogyo Kk; JP 09208560 A 1997 CAPLUS
- (6) Eastman Kodak Co; EP 0837460 A 1998 CAPLUS
- (7) Hayashibara Biochem Lab; EP 1092753 A 2001 CAPLUS
- (8) Itek Corp; DE 1772286 A 1970
- (9) Mitsubishi Chem Ind; EP 0224261 A 1987 CAPLUS
- (10) Mitsubishi Chem Ind; EP 0483387 A 1992 CAPLUS
- (11) Mitsui Chem Inc; JP 10149583 A 1998
- (12) Mitsui Toatsu Chemicals; EP 0676751 A 1995
- (13) Pioneer Electronic Corp; EP 0528512 A 1993
- (14) Ricoh Kk; JP 58125246 A 1983 CAPLUS

L12 ANSWER 34 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:676353 CAPLUS

DN 135:233962

ED Entered STN: 14 Sep 2001

TI \*\*\*Information\*\*\* recording medium and recording method

IN Saito, Naoki; Usami, Yoshihisa; Komori, Noboru

PA Fuji Photo Film Co., Ltd., Japan

SO Eur. Pat. Appl., 27 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | EP 1132901  | A2   | 20010912 | EP 2001-103757  | 20010215 |
|      | EP 1132901  | A3   | 20011128 |                 |          |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO |      |          |                 |          |
|      | JP 2001301333   | A2   | 20011031 | JP 2001-31146   | 20010207 |
|      | US 6524678  | B2   | 20030225 | US 2001-784047  | 20010216 |
|      | US 2002006494   | A1   | 20020117 |                 |          |
| PRAI | JP 2000-38513   | A    | 20000216 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| EP 1132901    | ICM   | G11B007-24   |
|               | IPCI  | G11B0007-24 [ICM,6]  |
|               | ECLA  | G11B007/244; G11B007/247   |
| JP 2001301333 | IPCI  | B41M0005-26 [ICM,7]; C09B0023-00 [ICS,7]; C09B0055-00 [ICS,7]; G11B0007-24 [ICS,7] |
| US 6524678    | IPCI  | B32B0003-02 [ICM,7]  |
|               | NCL   | 428/064.100; 428/064.800; 430/270.180  |
|               | ECLA  | G11B007/244; G11B007/247   |

OS MARPAT 135:233962

GI

/ Structure 20 in file .gra /

AB The invention relates to a heat-mode type \*\*\*optical\*\*\*

\*\*\*information\*\*\* recording medium suitable for the recording of

\*\*\*information\*\*\* using a short wavelength \*\*\*laser\*\*\* at 550 nm or less, such as a recordable \*\*\*optical\*\*\* disk (CD-R) and digital video disk (DVD-R). An \*\*\*optical\*\*\* \*\*\*information\*\*\* recording medium

comprising a substrate having thereon a recording layer capable of  
\*\*\*information\*\*\* recording by \*\*\*laser\*\*\* irradiation, wherein the  
recording layer contains a dye compd. R11R12N+ = L11-L12 =  
L13-NHR13.cntdot.(1/m) (X1)m- (I), R21R22N-L21 = L22-L23 = NR23 (II), or  
R31R32N+ = L31-L32 = L33-NR33R34.cntdot.(1/n) (X3)n- (III), where R11-R13,  
R21-R23, R31, R32 represent an alkyl or a heterocyclic group, L11-L13,  
L21-L23, L31-L33 represent a methine group which may have a substituent,  
any two of R11-R23 and L11-L23 may combine to form a ring, and (X1)m- and  
(X3)n- represent an org. or inorg. anion. Also disclosed is a method for  
recording \*\*\*information\*\*\* using the \*\*\*optical\*\*\*

\*\*\*information\*\*\* recording medium.

ST \*\*\*information\*\*\* recording \*\*\*optical\*\*\* disk cyanine dye  
heterocycle

IT Cyanine dyes

\*\*\*Laser\*\*\* radiation

\*\*\*Optical\*\*\* ROM disks

\*\*\*Optical\*\*\* disks

\*\*\*Optical\*\*\* recording

(heat-mode type \*\*\*optical\*\*\* recording disk contg. cyanine dyes

and \*\*\*information\*\*\* recording using 550 nm \*\*\*laser\*\*\* )

IT 359633-18-4P 359633-20-8P 359633-22-0P 359633-24-2P 359633-26-4P

359633-27-5P 359633-28-6P 359633-29-7P 359633-30-0P 359633-31-1P

359633-33-3P \*\*\*359633-35-5P\*\*\* \*\*\*359633-37-7P\*\*\*

\*\*\*359633-39-9P\*\*\* \*\*\*359633-41-3P\*\*\*

RL: DEV (Device component use); IMF (Industrial manufacture); NUU (Other  
use, unclassified); PEP (Physical, engineering or chemical process); TEM  
(Technical or engineered material use); PREP (Preparation); PROC  
(Process); USES (Uses)

(cyanine dyes for heat-mode type \*\*\*optical\*\*\* recording disk and

\*\*\*information\*\*\* recording using 550 nm \*\*\*laser\*\*\* )

L12 ANSWER 35 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:545690 CAPLUS

DN 135:142328

ED Entered STN: 27 Jul 2001

TI Dendrimer precursor indocyanine dyes for imaging

IN Achilefu, Samuel I.; Rajagopalan, Raghavan; Dorshow, Richard B.; Bugaj,  
Joseph E.

PA Mallinckrodt Inc., USA

SO PCT Int. Appl., 40 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07D403-08

ICS A61K049-00

CC 63-8 (Pharmaceuticals)

Section cross-reference(s): 1, 8, 27, 34

FAN.CNT 6

|      | PATENT NO.     | KIND   | DATE     | APPLICATION NO. | DATE     |
|------|----------------|--|----------|-----------------|----------|
| PI   | WO 2001053292  | A1   | 20010726 | WO 2001-US1407  | 20010117 |
|      | W:             | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW |          |                 |          |
|      | RW:            | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG   |          |                 |          |
|      | US 6395357     | B1   | 20020528 | US 2000-484322  | 20000118 |
|      | EP 1250333     | A1   | 20021023 | EP 2001-942624  | 20010117 |
|      | R:             | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |          |                 |          |
|      | JP 2003520868  | T2   | 20030708 | JP 2001-553766  | 20010117 |
| PRAI | US 2000-484322 | A  | 20000118 |                 |          |
|      | WO 2001-US1407 | W  | 20010117 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---------------|-------|------------------------------------|
| WO 2001053292 | ICM   | C07D403-08                         |
|               | ICS   | A61K049-00                         |

US 6395357 IPCI C07D0403-08 [ICM,7]; A61K0049-00 [ICS,7]  
ECLA A61K041/00M4; A61K041/00W; A61K049/00P4F; C09B023/00D;  
C09B023/08  
NCL 428/035.700; 428/035.400; 428/036.600; 428/036.700;  
428/505.000; 428/515.000; 428/516.000; 428/520.000  
ECLA A61K041/00M4; A61K041/00W; A61K049/00P4F; C09B023/00D;  
C09B023/08  
EP 1250333 IPCI C07D0403-08 [ICM,6]; A61K0049-00 [ICS,6]  
JP 2003520868 IPCI C09B0023-00 [ICM,7]; A61K0049-00 [ICS,7]; A61K0049-04  
[ICS,7]; C07D0209-12 [ICS,7]; C07D0209-60 [ICS,7];  
C07D0405-12 [ICS,7]; C07H0015-26 [ICS,7]; C07K0007-06  
[ICS,7]

OS MARPAT 135:142328

AB The sensitivity and specificity of the \*\*\*optical\*\*\* modality can be enhanced by the use of highly absorbing dyes as contrast agents. Novel indocyanine dyes that absorb and emit light in the near IR region of electromagnetic spectrum are disclosed. These dyes are useful for imaging, diagnosis and therapy of various diseased states. Particularly, the mols. of the invention are useful for \*\*\*optical\*\*\* diagnostic imaging and therapy, in endoscopic applications for the detection of tumors and other abnormalities, e.g., atherosclerotic plaques and blood clots, for localized therapy, for photoacoustic tumor imaging, detection and therapy, and for sonofluorescence tumor imaging, detection and therapy. The compns. of indocyanine dyes are prepd. by conjugating the dyes to peptides or biomols. by solid phase synthesis. To prevent in vivo or in vitro fluorescence quenching of the diagnostic or therapeutic compns. of the dye mols., 1-50% of DMSO is added. For example, a bis(ethylcarboxymethyl)indocyanine dye was prepd. from 1,1,2-trimethyl-[1H]-benz[e]indole and 3-bromopropanoic acid and then the dye was conjugated to Octreotate peptide.

ST indocyanine dye prepn peptide conjugate diagnosis therapy; contrast agent indocyanine dye peptide conjugate

IT Surgery  
(LAGS ( \*\*\*laser\*\*\* -assisted guided surgery); prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT Diagnosis  
(agents; prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT Peptides, biological studies  
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(conjugates with indocyanine dyes; prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT Imaging agents  
(contrast; prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT Cyanine dyes  
(indocyanine; prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT Drug delivery systems  
(localized; prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT Tomography  
( \*\*\*optical\*\*\* ; prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT Antitumor agents  
Atherosclerosis  
Fluorescence  
Light scattering  
\*\*\*Optical\*\*\* absorption  
Photoacoustic effect  
Photodynamic therapy  
Thrombus  
(prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT Sonoluminescence  
(sonofluorescence; prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT Imaging  
(tumor; prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT 128-08-5, N-Bromosuccinimide 141-43-5, Ethanolamine, reactions  
590-92-1, 3-Bromopropanoic acid 1640-39-7, 2,3,3-Trimethylindole



2531-70-6 4224-70-8, 6-Bromohexanoic acid 5437-45-6, Benzyl  
bromoacetate 6318-16-7 41532-84-7, 1,1,2-Trimethyl-[1H]-benz[e]indole  
65476-32-6 309916-92-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT 25679-24-7P 61010-04-6P 83150-76-9P, Octreotide 95781-56-9P  
95837-47-1P 105466-87-3P 115239-21-9P 195825-84-4P 302794-43-0P  
309916-88-9P 309916-89-0P 309916-90-3P 351439-57-1P 351439-58-2P  
351439-59-3P \*\*\*351439-60-6P\*\*\* 351439-68-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT 25679-24-7DP, conjugates with indocyanine dyes 83150-76-9DP, Octreotide,  
conjugates with indocyanine dyes 95781-56-9DP, conjugates with peptides  
95837-47-1DP, conjugates with peptides 105466-87-3DP, conjugates with  
indocyanine dyes 115239-21-9DP, conjugates with peptides  
195825-84-4DP, conjugates with indocyanine dyes 302794-43-0DP,  
conjugates with indocyanine dyes 309916-88-9DP, conjugates with  
indocyanine dyes 309916-89-0DP, conjugates with indocyanine dyes  
309916-90-3DP, conjugates with indocyanine dyes 351439-57-1DP,  
conjugates with peptides 351439-58-2DP, conjugates with peptides  
351439-59-3DP, conjugates with peptides \*\*\*351439-60-6DP\*\*\* ,  
conjugates with peptides  
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological  
study); PREP (Preparation); USES (Uses)  
(prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

IT 67-68-5, Dimethyl sulfoxide, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(prepn. of indocyanine dyes for diagnostic or therapeutic compns.)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE  
(1) Lee; US 5453505 A 1995 CAPLUS  
(2) TDK Corp; JP 59192595 A1 1984 CAPLUS

L12 ANSWER 36 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2001:422339 CAPLUS  
DN 135:218218  
ED Entered STN: 12 Jun 2001  
TI \*\*\*Optical\*\*\* characterization of a \*\*\*laser\*\*\* dye in a solid  
state host  
AU Sardar, Dhiraj K.; Yow, Raylon M.; Mayo, Michael L.  
CS Division of Earth and Physical Sciences, The University of Texas at San  
Antonio, San Antonio, TX, 78249, USA  
SO Journal of Applied Physics (2001), 89(12), 7739-7744  
CODEN: JAPIAU; ISSN: 0021-8979  
PB American Institute of Physics  
DT Journal  
LA English  
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related  
Properties)  
AB The \*\*\*optical\*\*\* properties of C18H16N2O2B2F4H2O, an org.  
\*\*\*laser\*\*\* dye embedded in solid plastic host, were characterized for a  
no. of \*\*\*laser\*\*\* wavelengths in the visible region. The index of  
refraction of the dye in plastic host is measured by the conventional  
method of min. deviation at these wavelengths. The inverse adding  
doubling method based on the diffusion approxn. and radiative transport  
theory were employed to det. the absorption, scattering, and scattering  
anisotropy coeffs. of the dye in plastic host from the measurements of  
total diffuse transmittance, total diffuse reflectance, and collimated  
transmittance using an integrating sphere. The total attenuation coeffs.  
obtained by this method were compared with those detd. by the collimated  
transmission and from the total attenuation measurement.

ST \*\*\*optical\*\*\* property \*\*\*laser\*\*\* dye solid state host  
IT Dyes  
( \*\*\*laser\*\*\* ; \*\*\*optical\*\*\* characterization of a \*\*\*laser\*\*\*  
dye in a solid state host in relation to)

IT ATR (attenuated total reflection)  
Absorptivity  
Fluorescence  
Refractive index  
( \*\*\*optical\*\*\* characterization of a \*\*\*laser\*\*\* dye in a solid  
state host)

IT \*\*\*Optical\*\*\* reflection  
(total, diffuse; \*\*\*optical\*\*\* characterization of a \*\*\*laser\*\*\*  
dye in a solid state host)  
IT \*\*\*54836-41-8\*\*\*  
RL: PRP (Properties)  
( \*\*\*optical\*\*\* characterization of a \*\*\*laser\*\*\* dye in a solid  
state host)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE  
(1) bin Mat Yunus, W; Appl Opt 1989, V28, P4268  
(2) Chandrasekhar, S; Radiative Transfer 1960  
(3) Gettemy, D; OSA Proc Adv Solid-State Lasers 1991, V10, P390  
(4) Grange, B; Appl Opt 1976, V15, P858 CAPLUS  
(5) Groenhuis, R; Appl Opt 1983, V22, P2456  
(6) Guggenheimer, S; Appl Opt 1993, V32, P3942 CAPLUS  
(7) Henyey, L; Astrophys 1941, V93, P70  
(8) Hermes, R; Appl Phys Commun 1992, V11, P1 CAPLUS  
(9) Ishimaru, A; Wave Propagation and Scattering in Random Media 1978, V1  
(10) Kubelka, P; J Opt Soc Am 1948, V38, P488  
(11) O'Neil, M; Opt Lett 1993, V18, P37 CAPLUS  
(12) Pavlopoulos, T; Appl Opt 1990, V29, P3885 CAPLUS  
(13) Pavlopoulos, T; Opt Commun 1989, V70, P425 CAPLUS  
(14) Prahl, S; Appl Opt 1993, V32, P559  
(15) Reynolds, L; Appl Opt 1978, V15, P2059  
(16) van Gemert, M; Lasers Life Sci 1987, V1, P287  
(17) van Gemert, M; Lasers Med Sci 1987, V2, P295

L12 ANSWER 37 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:377050 CAPLUS

DN 135:12099

ED Entered STN: 25 May 2001

TI Positive-working photosensitive composition and positive-working  
photosensitive lithographic printing plate suitable for near-IR  
\*\*\*laser\*\*\* direct platemaking

IN Urano, Toshiyoshi; Minakami, Junji

PA Mitsubishi Chemical Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 24 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-004

ICS G03F007-004; B41N001-14; C08K005-3417; C08K005-46; C08L061-06;  
C08L101-00; C09B023-00; G03F007-00

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

Section cross-reference(s): 41

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 2001142202  | A2   | 20010525 | JP 2000-250762  | 20000822 |
| PRAI | JP 1999-235217 | A    | 19990823 |                 |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|---------------|-------|--|
| JP 2001142202 | ICM   | G03F007-004  |
|               | ICS   | G03F007-004; B41N001-14; C08K005-3417; C08K005-46;<br>C08L061-06; C08L101-00; C09B023-00; G03F007-00   |
|               | IPCI  | G03F0007-004 [ICM,7]; G03F0007-004 [ICS,7]; B41N0001-14<br>[ICS,7]; C08K0005-3417 [ICS,7]; C08K0005-46 [ICS,7];<br>C08L0061-06 [ICS,7]; C08L0101-00 [ICS,7]; C09B0023-00<br>[ICS,7]; G03F0007-00 [ICS,7] |

OS MARPAT 135:12099

GI

/ Structure 21 in file .gra /

AB In a pos.-working photosensitive compn. comprising a photothermal  
conversion substance and an alk.-sol. novolak resin, the photothermal

conversion substance is a cyanine dye represented by I (Y1, Y2 = dialkylmethylene, S; R3, R4 = alkyl, alkenyl, alkynyl, phenyl; L2 = polymethine linkage contg. substituent including ether linkage or thioether linkage; Xa- = counter anion). The photosensitive compn. shows excellent near-IR-sensitivity and high contrast.

ST pos working photosensitive compn cyanine dye lithog printing plate; direct  
platemaking near IR \*\*\*laser\*\*\* photoresist

IT Cyanine dyes  
(in pos.-working photosensitive compn. and pos.-working photosensitive lithog. printing plate suitable for near-IR \*\*\*laser\*\*\* direct  
platemaking)

IT Positive photoresists  
(pos.-working photosensitive compn. and pos.-working photosensitive lithog. printing plate suitable for near-IR \*\*\*laser\*\*\* direct  
platemaking)

IT Lithographic plates  
(presensitized, pos.-working; pos.-working photosensitive compn. and pos.-working photosensitive lithog. printing plate suitable for near-IR  
\*\*\*laser\*\*\* direct platemaking)

IT 27029-76-1, m-Cresol-p-cresol-formaldehyde copolymer  
RL: TEM (Technical or engineered material use); USES (Uses)  
(alk.-sol. novolak resin in pos.-working photosensitive compn. and pos.-working photosensitive lithog. printing plate suitable for near-IR  
\*\*\*laser\*\*\* direct platemaking)

IT 328063-81-6 328063-88-3 \*\*\*328063-95-2\*\*\* \*\*\*328064-01-3\*\*\*  
RL: TEM (Technical or engineered material use); USES (Uses)  
(cyanine dye in pos.-working photosensitive compn. and pos.-working photosensitive lithog. printing plate suitable for near-IR  
\*\*\*laser\*\*\* direct platemaking)

L12 ANSWER 38 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2001:292234 CAPLUS  
DN 135:99477  
ED Entered STN: 25 Apr 2001  
TI Effect of \*\*\*optical\*\*\* limiting in polymethine dyes  
AU Prozhonskaya, O. V.; Bondar, M. V.; Slominskii, Yu. L.  
CS Inst. Fiz., NAN Ukrainy, Ukraine  
SO Zhurnal Nauchnoi i Prikladnoi Fotografii (2001), 46(1), 60-69  
CODEN: ZNPFEK; ISSN: 0869-6144  
PB Nauka  
DT Journal  
LA Russian  
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 41

AB A systematic study of nonlinear absorption of indotricarbocyanine dyes has been carried out in liq. solns. and polymer matrixes with the goal of constructing effective \*\*\*optical\*\*\* limiters. Photostability of the dyes under ns excitation was studied and photobleaching quantum yields were detd. Mol. structures were described favoring greated over-absorption in the excited singlet state.

ST nonlinear \*\*\*optical\*\*\* property cyanine dye excited state absorption photobleaching

IT Polyurethanes, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(acrylates, matrix; effect of \*\*\*optical\*\*\* limiting in polymethine dyes)

IT Cyanine dyes  
Excited state absorption  
\*\*\*Laser\*\*\* radiation  
Nonlinear \*\*\*optical\*\*\* properties  
Photochemical bleaching  
(effect of \*\*\*optical\*\*\* limiting in polymethine dyes)

IT 84591-85-5 84591-87-7 198346-11-1 262607-20-5 262607-22-7  
\*\*\*262607-24-9\*\*\* 262607-26-1 348626-53-9 348626-56-2  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)  
(effect of \*\*\*optical\*\*\* limiting in polymethine dyes)

L12 ANSWER 39 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2001:123149 CAPLUS  
DN 134:186013

ED Entered STN: 20 Feb 2001  
 TI \*\*\*Optical\*\*\* recording materials containing metallocene compounds and  
 \*\*\*optical\*\*\* recording media  
 IN Oya, Keiji; Tomita, Atsuo; Yano, Toru  
 PA Asahi Denka Kogyo K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 20 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM B41M005-26  
 ICS C07F017-02; C09B023-00; G11B007-24  
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 Section cross-reference(s): 27, 28, 73

| FAN.CNT 2 |                |      |          |                  |          |
|-----------|----------------|------|----------|------------------|----------|
|           | PATENT NO.     | KIND | DATE     | APPLICATION NO.  | DATE     |
| -----     |                |      |          |                  |          |
| PI        | JP 2001047740  | A2   | 20010220 | JP 1999-221664   | 19990804 |
|           | TW 546300      | B    | 20030811 | TW 2000-89115492 | 20000802 |
|           | US 2003224293  | A1   | 20031204 | US 2003-367726   | 20030219 |
| PRAI      | JP 1999-221664 | A    | 19990804 |                  |          |
|           | US 2000-630610 | B2   | 20000802 |                  |          |

| CLASS         |                   |  |                                    |
|---------------|-------------------|--|------------------------------------|
| PATENT NO.    |                   | CLASS  | PATENT FAMILY CLASSIFICATION CODES |
| -----         |                   | ----   | -----                              |
| JP 2001047740 | ICM               | B41M005-26   |                                    |
|               | ICS               | C07F017-02; C09B023-00; G11B007-24   |                                    |
|               | IPCI              | B41M0005-26 [ICM,7]; C07F0017-02 [ICS,7]; C09B0023-00 [ICS,7]; G11B0007-24 [ICS,7] |                                    |
| TW 546300     | IPCI              | C07F0017-02 [ICM,7]; C09B0023-00 [ICS,7]; G11B0007-24 [ICS,7]                      |                                    |
| US 2003224293 | IPCI              | G11B0007-24 [ICM,7]  |                                    |
|               | NCL               | 430/270.140  |                                    |
|               | ECLA              | G11B007/247; G11B007/248   |                                    |
| OS            | MARPAT 134:186013 |  |                                    |
| GI            |                   |  |                                    |

/ Structure 22 in file .gra /

AB The \*\*\*optical\*\*\* recording materials contain metallocene compds. I (X = metallocene group; A = heterocycles Q1-5; Anm- = anion of valent m; m = 1, 2; p = no. for obtaining neutral charge; B = benzene ring with 0-2 R1 substitution(s), naphthalene; R = C1-30 org. group; R1 = H, halogen, nitro, cyano, C1-4 alkyl, C1-4 alkoxy, C6-30 aryl; Y = C1-6 alkylidene, C3-6 cycloalkylidene, O, S, Se, N having C1-8 alkyl group; n = integer of 0-2). The materials may also contain .gtoreq.1 dyes selected from azo, phthalocyanine, and cyanine dyes. \*\*\*Optical\*\*\* recording media comprising of a substrate equipped with a thin layer of the above stated recording materials are also claimed. \*\*\*Optical\*\*\* recording media with excellent pit formability, pit controllability, and light stability are obtained.

ST \*\*\*optical\*\*\* recording material metallocene heterocycle deriv; dye metallocene \*\*\*optical\*\*\* recording media; indolenine ferrocene deriv \*\*\*optical\*\*\* recording material

IT Metallocenes  
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)  
 (heterocycle derivs.; \*\*\*optical\*\*\* recording media comprising of metallocene heterocycle derivs.)

IT Azo dyes  
 Cyanine dyes  
 \*\*\*Optical\*\*\* recording materials  
 ( \*\*\*optical\*\*\* recording media comprising of metallocene heterocycle derivs.)

IT Dyes  
 (phthalocyanine; \*\*\*optical\*\*\* recording media comprising of metallocene heterocycle derivs.)

IT 121482-73-3 137147-59-2 220915-09-3 326801-78-9 326801-82-5

326801-84-7 326801-86-9 326801-90-5 326801-92-7  
RL: DEV (Device component use); MOA (Modifier or additive use); USES  
(Uses)  
(dye; \*\*\*optical\*\*\* recording media comprising of metallocene  
heterocycle derivs.)  
IT \*\*\*326803-23-0P\*\*\* \*\*\*326803-24-1P\*\*\* \*\*\*326803-26-3P\*\*\*  
\*\*\*326803-29-6P\*\*\* \*\*\*326803-30-9P\*\*\*  
RL: DEV (Device component use); IMF (Industrial manufacture); TEM  
(Technical or engineered material use); PREP (Preparation); USES (Uses)  
( \*\*\*optical\*\*\* recording media comprising of metallocene  
heterocycle derivs.)  
IT \*\*\*326803-32-1\*\*\* \*\*\*326803-33-2\*\*\* \*\*\*326803-34-3\*\*\*  
\*\*\*326803-35-4\*\*\* \*\*\*326803-36-5\*\*\* \*\*\*326803-38-7\*\*\*  
\*\*\*326803-39-8\*\*\*  
RL: DEV (Device component use); TEM (Technical or engineered material  
use); USES (Uses)  
( \*\*\*optical\*\*\* recording media comprising of metallocene  
heterocycle derivs.)  
IT 3484-22-8P, 2,3,3-Trimethyl-5-nitroindolenine 31241-19-7P,  
2,3,3-Trimethyl-5-methoxyindolenine 32376-95-7P, Phenethyl  
benzenesulfonate 41532-84-7P 124004-35-9P, Phenoxyethyl  
benzenesulfonate 136684-81-6P 326801-74-5P 326801-76-7P  
326801-77-8P  
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation);  
RACT (Reactant or reagent)  
( \*\*\*optical\*\*\* recording media comprising of metallocene  
heterocycle derivs.)  
IT 98-09-9, Benzene sulfonyl chloride 100-16-3, 4-Nitrophenylhydrazine  
107-08-4, Propyl iodide 122-99-6, 2-Phenoxyethanol 541-28-6, Isoamyl  
iodide 563-80-4, 3-Methyl-2-butanone 565-61-7, 3-Methyl-2-pentanone  
1640-39-7, 2,3,3-Trimethylindolenine 2243-57-4, .beta.-Naphthylhydrazine  
3471-32-7, 4-Methoxyphenylhydrazine 4119-41-9, 3-Phenylpropyl iodide  
12093-10-6, Ferrocenylcarboxaldehyde 19763-90-7, 3,4-  
Dichlorophenylhydrazine hydrochloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
( \*\*\*optical\*\*\* recording media comprising of metallocene  
heterocycle derivs.)

L12 ANSWER 40 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2000:646079 CAPLUS  
DN 133:239376  
ED Entered STN: 15 Sep 2000  
TI \*\*\*Laser\*\*\* -compatible NIR marker dyes  
IN Czerney, Peter; Lehmann, Frank  
PA Dyomics, Germany  
SO PCT Int. Appl., 33 pp.  
CODEN: PIXXD2  
DT Patent  
LA German  
IC ICM C09B023-02  
ICS C09B023-10; G01N033-58  
CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
Sensitizers)  
Section cross-reference(s): 9

FAN.CNT 1

|      | PATENT NO.       | KIND | DATE     | APPLICATION NO.  | DATE     |
|------|------------------|------|----------|------------------|----------|
| PI   | WO 2000053678    | A1   | 20000914 | WO 2000-DE802    | 20000309 |
|      | W: DE, US        |      |          |                  |          |
|      | DE 19911421      | A1   | 20001005 | DE 1999-19911421 | 19990311 |
| PRAI | DE 1999-19911421 | A    | 19990311 |                  |          |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES                            |
|---------------|-------|---|
| WO 2000053678 | ICM   | C09B023-02  |
|               | ICS   | C09B023-10; G01N033-58  |
|               | IPCI  | C09B0023-02 [ICM,7]; C09B0023-10 [ICS,7]; G01N0033-58 [ICS,7] |
|               | ECLA  | C09B023/02; C09B023/10  |
| DE 19911421   | IPCI  | C09B0023-16 [ICM,7]   |
|               | ECLA  | C09B023/02; C09B023/10  |

OS MARPAT 133:239376

/ Structure 23 in file .gra /

AB The aim of the invention is to provide NIR-marker polymethine dyes such as I (R1-R12 = H, org. group, OH, ionizable group; X, Y = O, S, Se, imino, dialkylmethylene; A, Z = H; AZ together may form an aliph., heteroaliph., lactone, or thiolactone linkage; n = 1-3) with high photochem. and storage stability as well as high fluorescence yield, in which fluorescence can be excited as simply as possibly by means of \*\*\*laser\*\*\* radiation in the visible or NIR spectral range. Thus, 3-(diethylamino)-6-(ethoxymethylene)-7,8,9,10-tetrahydro-6H-(5-oxoniacyclohepta[b]naphthalene) perchlorate was prepd. and converted to 3-(diethylamino)-6-[2-[1-(5-carboxypentyl)-3,3-dimethyl-5-sulfonato-1,3-dihydro-2-indolylidenyl]ethylidene]-7,8,9,10-tetrahydro-6H-(5-oxoniacyclohepta[b]naphthalene) betaine. This compd. after esterification with N-hydroxysuccinimide could be used to label human serum albumin.

ST fluorescent near IR dye biomarker prodn

IT Fluorescent dyes  
Fluorescent dyes  
(cyanine; prodn. of \*\*\*laser\*\*\* -compatible NIR fluorescent biomarker dyes)

IT Cyanine dyes  
Cyanine dyes  
(fluorescent; prodn. of \*\*\*laser\*\*\* -compatible NIR fluorescent biomarker dyes)

IT Cyanine dyes  
(near-IR-absorbing; prodn. of \*\*\*laser\*\*\* -compatible NIR fluorescent biomarker dyes)

IT Fluorescent indicators  
(prodn. of \*\*\*laser\*\*\* -compatible NIR fluorescent biomarker dyes)

IT \*\*\*293320-49-7P\*\*\*  
RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(dye; prodn. of \*\*\*laser\*\*\* -compatible NIR fluorescent biomarker dyes)

IT 293320-32-8P 293320-34-0P \*\*\*293320-46-4P\*\*\* \*\*\*293320-47-5P\*\*\*  
\*\*\*293320-51-1P\*\*\*  
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(dye; prodn. of \*\*\*laser\*\*\* -compatible NIR fluorescent biomarker dyes)

IT 293320-36-2P 293320-38-4P 293320-40-8P 293320-42-0P  
\*\*\*293320-44-2P\*\*\* \*\*\*293320-45-3P\*\*\* \*\*\*293320-48-6P\*\*\*  
\*\*\*293320-53-3P\*\*\*  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(dye; prodn. of \*\*\*laser\*\*\* -compatible NIR fluorescent biomarker dyes)

IT 122-51-0, Triethyl orthoformate 1497-49-0 6066-82-6,  
N-Hydroxysuccinimide 20205-30-5 21016-25-1 28140-60-5 89992-70-1,  
2-Cyanoethyl N,N-diisopropylchlorophosphoramidite 146368-08-3  
182873-70-7 193824-32-7 198422-72-9 203525-41-1 293320-55-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; prodn. of \*\*\*laser\*\*\* -compatible NIR fluorescent biomarker dyes)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Glazer; US 5760201 A 1998 CAPLUS
- (2) Hiroyuki, N; CHEMICAL REVIEWS 1992, P1197
- (3) Hyperion Inc; WO 9641144 A 1996 CAPLUS
- (4) Molecular Probes Inc; WO 9424213 A 1994 CAPLUS
- (5) Molecular Probes Inc; WO 9613552 A 1996 CAPLUS
- (6) Univ Carnegie Mellon; DE 3912046 A 1990 CAPLUS

AN 2000:87700 CAPLUS  
 DN 132:195162  
 ED Entered STN: 07 Feb 2000  
 TI Polymer monolayers with a photosensitive crown-ether  
 AU Baryshnikova, E. A.; Sergeeva, T. I.; Oertel, U.; Nagel, J.; Zaitsev, S.  
 Yu.  
 CS Institute Bioorganic Chemistry, Moscow, 117871, Russia  
 SO Macromolecular Rapid Communications (2000), 21(1), 45-47  
 CODEN: MRCOE3; ISSN: 1022-1336  
 PB Wiley-VCH Verlag GmbH  
 DT Journal  
 LA English  
 CC 37-5 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 66, 73  
 AB The mixed monolayers of a photosensitive crown-ether (CE) and poly(maleic  
 acid hexadecyl monoamide-alt-propylene) (P12) were prepd. and studied.  
 Fluorescence spectra of CE have a strong band at 530-535 nm in soln.  
 (monomer) or at 593-603 nm in transferred monolayers (aggregates). Due to  
 the interaction with polymer the fluorescence max. of CE is shifted to 530  
 nm in the mixed monolayers with P12.  
 ST maleic hexadecylamide propylene polymer monolayer photosensitive crown  
 ether fluorescence  
 IT Fluorescence  
 Monolayers  
 Surface pressure  
 (prepn. and \*\*\*optical\*\*\* properties of poly(maleic acid hexadecyl  
 monoamide-alt-propylene) monolayers with photosensitive crown ether)  
 IT 143-27-1D, Hexadecylamine, reaction products with maleic  
 anhydride-propylene alternating copolymer 107298-56-6D, Maleic  
 anhydride-propylene alternating copolymer, hexadecylamide  
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (prepn. and \*\*\*optical\*\*\* properties of poly(maleic acid hexadecyl  
 monoamide-alt-propylene) monolayers with photosensitive crown ether)  
 IT \*\*\*260058-43-3\*\*\*  
 RL: PRP (Properties)  
 (prepn. and \*\*\*optical\*\*\* properties of poly(maleic acid hexadecyl  
 monoamide-alt-propylene) monolayers with photosensitive crown ether)  
 RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Lednev, I; Adv Mater 1996, V8, P615 CAPLUS  
 (2) Oertel, U; Macromol Symp 1997, V126, P189  
 (3) Zaitsev, S; Colloids and Surfaces 1998, V131, P325 CAPLUS  
 (4) Zaitsev, S; Supramol Science 1997, V4, P519 CAPLUS  
 (5) Zaitsev, S; Thin Solid Films 1998, V327-329, P821 CAPLUS  
 L12 ANSWER 42 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2000:36371 CAPLUS  
 DN 132:257698  
 ED Entered STN: 17 Jan 2000  
 TI Nonlinear spectrometer for characterization of organic and polymeric  
 molecules  
 AU Negres, Raluca A.; Van Stryland, Eric W.; Hagan, David J.; Belfield, Kevin  
 D.; Schafer, Katherine J.; Przhonska, Olga V.; Reinhardt, Bruce A.  
 CS Sch. Optics, CREOL/Univ. of Central Florida, Orlando, FL, USA  
 SO Proceedings of SPIE-The International Society for Optical Engineering  
 (1999), 3796(Organic Nonlinear Optical Materials), 88-97  
 CODEN: PSISDG; ISSN: 0277-786X  
 PB SPIE-The International Society for Optical Engineering  
 DT Journal  
 LA English  
 CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 AB The authors have developed a femtosecond continuum spectrometer to measure  
 nonlinear absorption spectra from 300 nm in the UV to 1.7 .mu.m in the IR.  
 This method is applied for measuring NLA spectra of semiconductor, org.  
 and polymeric materials. The pump-probe nature of the expt. also allows  
 the temporal response to be detd., thus helping in the detg. of the  
 underlying phys. mechanisms for the nonlinearity. The authors describe  
 studies of two-photon absorption in alkyl fluorenes and excited state  
 absorption dynamics in polymethines using this spectrometer.  
 ST nonlinear \*\*\*optical\*\*\* property excited state two photon absorption  
 IT Polyurethanes, uses

RL: NUU (Other use, unclassified); USES (Uses)  
 (acrylates; nonlinear spectrometer for characterization of org. and polymeric mols.)

IT Excited state absorption  
 Nonlinear \*\*\*optical\*\*\* absorption  
 Two-photon absorption  
 UV and visible spectra  
 (nonlinear spectrometer for characterization of org. and polymeric mols.)

IT 64-17-5, Ethanol, uses 584-08-7 12597-70-5, Copper bronze  
 17455-13-9, 1,4,7,10,13,16-Hexaoxacyclooctadecane  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (nonlinear spectrometer for characterization of org. and polymeric mols.)

IT 84591-85-5 84591-87-7 198346-11-1 262607-20-5 262607-22-7  
 \*\*\*262607-24-9\*\*\* 262607-26-1  
 RL: PRP (Properties)  
 (nonlinear spectrometer for characterization of org. and polymeric mols.)

IT 262607-29-4P 262607-30-7P 262607-32-9P 262607-33-0P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (nonlinear spectrometer for characterization of org. and polymeric mols.)

IT 95-16-9, Benzothiazole 95-50-1, 1,2-Dichlorobenzene 109-72-8, n-Butyl lithium, reactions 122-39-4, N,N-Diphenylamine, reactions 1461-22-9  
 13965-03-2, Dichlorobis(triphenylphosphine) palladium 14221-01-3, Tetrakis(triphenylphosphine) palladium 262607-28-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (nonlinear spectrometer for characterization of org. and polymeric mols.)

IT 10603-84-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (nonlinear spectrometer for characterization of org. and polymeric mols.)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

- RE
- (1) Albota, M; Science 1998, V281, P1653 CAPLUS
  - (2) Alfano, R; Phys Rev Lett 1970, V24, P584 CAPLUS
  - (3) Andrews, J; Nonlinear Optics 1995, V10, P227 CAPLUS
  - (4) Bassani, F; Phys Rev B 1991, V44, P8446
  - (5) Belfield, K; Polymer Prep 1999, V40(1), P127 CAPLUS
  - (6) Bolger, J; Optics Comm 1993, V97, P203 CAPLUS
  - (7) Brodeur, A; Opt Comm 1996, V129, P193 CAPLUS
  - (8) Brodeur, A; Phys Rev Lett 1998, V80, P4406 CAPLUS
  - (9) Ehrlich, J; Opt Lett 1997, V22(24), P1843 CAPLUS
  - (10) Hutchings, D; Opt Quantum Electron 1992, V24, P1 CAPLUS
  - (11) James, H; Opt Lett 1994, V19, P984
  - (12) Lawrence, B; Phys Rev Lett 1994, V73, P597 CAPLUS
  - (13) Lim, J; Chem Phys 1999
  - (14) Olga, V; J Opt Soc Amer B 1998, V15(2), P802
  - (15) Sheik-Bahae, M; IEEE J Quantum Electron 1991, VQE-27, P1296
  - (16) Sheik-Bahae, M; Phys Rev Lett 1990, V65, P96 CAPLUS

L12 ANSWER 43 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:617723 CAPLUS

DN 131:302593

ED Entered STN: 28 Sep 1999

TI Personal ammonia sensor for industrial environments

AU Malins, C.; Doyle, A.; MacCraith, B. D.; Kvasnik, F.; Landl, M.; Simon, P.; Kalvoda, L.; Lukas, R.; Pufler, K.; Babusik, I.

CS Department of Instrumentation and Analytical Science, UMIST, Manchester, M60 1QD, UK

SO Journal of Environmental Monitoring (1999), 1(5), 417-422  
 CODEN: JEMOFW; ISSN: 1464-0325

PB Royal Society of Chemistry

DT Journal

LA English

CC 59-1 (Air Pollution and Industrial Hygiene)  
 Section cross-reference(s): 47, 79

AB The realization of an opto-chem. NH3 sensor suitable for personal



monitoring tasks is described, comprising a cyanine dye immobilized in a microporous glass thin film. Fabrication of sensor platforms incorporating embossed grating couplers provided a compact \*\*\*optical\*\*\* design with effective waveguiding characteristics, resulting in reversible NH3 sensitivity in the 5-100 ppm range in <2 min. Sensor response cross-sensitivity with water and other potential interferents is considered.

ST ammonia detn air analysis; personal \*\*\*optical\*\*\* chem sensor ammonia  
detn; glass thin film immobilized cyanine dye ammonia detn  
IT Air analysis  
(ammonia detn. in industrial air by \*\*\*optical\*\*\* chem. sensor  
equipped with cyanine dye immobilized in microporous glass thin film)  
IT Sensors  
( \*\*\*optical\*\*\* fiber; ammonia detn. in industrial air by  
\*\*\*optical\*\*\* chem. sensor equipped with cyanine dye immobilized in  
microporous glass thin film)  
IT Sampling apparatus  
(personal; ammonia detn. in industrial air by \*\*\*optical\*\*\* chem.  
sensor equipped with cyanine dye immobilized in microporous glass thin  
film)  
IT 7664-41-7, Ammonia, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(ammonia detn. in industrial air by \*\*\*optical\*\*\* chem. sensor  
equipped with cyanine dye immobilized in microporous glass thin film)  
IT \*\*\*220813-23-0\*\*\*  
RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
(Analytical study); USES (Uses)  
(ammonia detn. in industrial air by \*\*\*optical\*\*\* chem. sensor  
equipped with cyanine dye immobilized in microporous glass thin film)

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Anon; <http://www.draeger.com>
- (2) Arnold, M; Anal Chem 1986, V58, P1137 CAPLUS
- (3) Bailescu, F; Applications of Ion-Selective Membrane Electrodes in Organic Analysis 1978
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L12 ANSWER 44 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:342383 CAPLUS

DN 131:94573

ED Entered STN: 04 Jun 1999

TI Sol-gel planar waveguide chemical sensors utilizing grating couplers

AU Doyle, A.; MacCraith, B. D.

CS School of Physical Sciences, Dublin City University, Dublin, Ire.

SO Proceedings of SPIE-The International Society for Optical Engineering (1999), 3540 (Chemical, Biochemical, and Environmental Fiber Sensors X), 136-145

CODEN: PSISDG; ISSN: 0277-786X

PB SPIE-The International Society for Optical Engineering

DT Journal

LA English

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 79

AB A novel, generic configuration for absorption-based \*\*\*optical\*\*\* sensors is presented. This technique uses embossed sol-gel glass derived gratings to couple LED light into and out of a planar waveguide. The power of the guided light is monitored as its evanescent field interrogates a dye-doped sol-gel sensor layer. This waveguiding arrangement is easy to manuf. and shows great potential for use in disposable, mass-produced sensor chips for a range of absorption-based sensing tasks. The sensor is then applied towards NH3 sensing in the ppm region.

ST sol gel waveguide chem sensor ammonia

IT Cyanine dyes

Diffraction gratings

Dyes

Ellipsometers

Gels

\*\*\*Optical\*\*\* couplers

\*\*\*Optical\*\*\* sensors

\*\*\*Optical\*\*\* waveguides

Planar waveguides ( \*\*\*optical\*\*\* )

Sols

(sol-gel planar waveguide chem. sensors utilizing grating couplers)

IT 7664-41-7, Ammonia, analysis

RL: ANT (Analyte); ANST (Analytical study)

(sol-gel planar waveguide chem. sensors utilizing grating couplers)

IT 115-40-2, Bromocresol purple \*\*\*220813-23-0\*\*\*

RL: MOA (Modifier or additive use); USES (Uses)

(sol-gel planar waveguide chem. sensors utilizing grating couplers)

IT 2031-67-6, Methyltriethoxysilane 10026-04-7, Silicon tetrachloride

RL: PEP (Physical, engineering or chemical process); PROC (Process)

(sol-gel planar waveguide chem. sensors utilizing grating couplers)

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (19) Ramos, B; Anal Chem 1996, V68, P1245 CAPLUS
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- (22) Scriven, L; Better Ceramics Through Chemistry 1988, P717 CAPLUS
- (23) Thomas, I; Sol-gel Optics: Processing and Applications 1994, P141 CAPLUS
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L12 ANSWER 45 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1999:231482 CAPLUS  
DN 130:242339  
ED Entered STN: 14 Apr 1999  
TI Methods and light imaging contrast media for medical use  
IN Henrichs, Paul Mark; Desai, Vinay Chandrakant; Delecki, Daniel Joseph;  
Snow, Robert Allen; McIntire, Gregory Lynn; Gates, Virginia Ann  
PA Nycomed Imaging A/S, Norway  
SO PCT Int. Appl., 39 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
IC A61K049-00  
CC 63-6 (Pharmaceuticals)  
Section cross-reference(s): 9

| FAN.CNT 1 |   |      |          |                 |          |
|-----------|---|------|----------|-----------------|----------|
|           | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
| -----     |   |      |          |                 |          |
| PI        | WO 9913916  | A2   | 19990325 | WO 1998-GB2833  | 19980918 |
|           | WO 9913916  | A3   | 20011220 |                 |          |
|           | W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |          |
|           | RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |          |
|           | AU 9891732  | A1   | 19990405 | AU 1998-91732   | 19980918 |
| PRAI      | GB 1997-19932   | A    | 19970918 |                 |          |
|           | US 1997-69263   | A2   | 19970926 |                 |          |
|           | WO 1998-GB2833  | W    | 19980918 |                 |          |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|------------|-------|------------------------------------|
| -----      |       |                                    |
| WO 9913916 | IC    | A61K049-00                         |
|            | IPCI  | A61K0049-00                        |
|            | ECLA  | A61K049/00P12                      |
| AU 9891732 | IPCI  | A61K0049-00 [ICM,6]                |

AB A compn. comprising physiol. tolerable vesicles which comprise a vesicle membrane-forming material, .gtoreq.1 chromophore having a light absorption max. in the range 300-1300.nm, and a scavenger, optionally together with .gtoreq.1 carrier or excipient, is provided for medical imaging at visible or IR wavelengths. The scavenger is a radical scavenger, antioxidant, singlet O quencher, chain transfer agent, etc. which reduces the risk of phototoxicity from singlet O generated by the excited triplet state of the chromophore produced by irradsn. The chromophore and/or scavenger may be dispersed in the interior of the vesicles (liposomes) or assocd. with the vesicle membranes. The vesicles may addnl. contain a drug (e.g. a cytotoxic agent) for release at a target site by disruption of the vesicles (e.g. by irradsn.-induced heating) once their localization at the target site is verified by imaging.

ST medical imaging liposome chromophore scavenger; vesicle medical imaging chromophore scavenger; radical scavenger chromophore medical imaging; antioxidant chromophore liposome medical imaging

IT Imaging  
(NMR; methods and light imaging contrast media for medical use)

IT Imaging agents  
(contrast; methods and light imaging contrast media for medical use)

IT Unsaturated compounds  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(cyanines; methods and light imaging contrast media for medical use)

IT Neoplasm  
(detection of; methods and light imaging contrast media for medical use)

IT Coordination compounds  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(dyes; methods and light imaging contrast media for medical use)

IT Phosphatidylcholines, biological studies  
Phosphatidylserines  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(hydrogenated, liposomes contg.; methods and light imaging contrast media for medical use)

IT Photoacoustic effect  
Sound and Ultrasound  
(imaging with; methods and light imaging contrast media for medical use)

IT Tomography  
( \*\*\*laser\*\*\* ; methods and light imaging contrast media for medical use)

IT Drug delivery systems  
(liposomes; methods and light imaging contrast media for medical use)

IT Antioxidants  
Azo dyes  
Chain transfer agents  
Chromophores  
Confocal \*\*\*laser\*\*\* scanning microscopy  
Cyanine dyes  
Diagnosis  
Imaging agents  
Radical scavengers  
Radiography  
Scavengers  
(methods and light imaging contrast media for medical use)

IT Circulation  
(microcirculation, of tumor, liposome populations sepn. by size in; methods and light imaging contrast media for medical use)

IT Particle size distribution  
(of liposomes; methods and light imaging contrast media for medical use)

IT Onium compounds  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(squarylium; methods and light imaging contrast media for medical use)

IT 905-97-5, 3,3'-Diethylthiacarbocyanine iodide \*\*\*221359-90-6D\*\*\* ,  
derivs.  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(chromophore; methods and light imaging contrast media for medical use)

IT 84-65-1D, Anthraquinone, derivs. 130-15-4D, 1,4-Naphthalenedione, derivs. 198-55-0D, Perylene, derivs. 289-67-8D, Pyrylium, derivs. 289-74-7D, Thiapyrylium, derivs. 519-73-3D, Triphenylmethane, derivs. 574-93-6D, Phthalocyanine, derivs. 23627-89-6D, Naphthalocyanine, derivs.  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(methods and light imaging contrast media for medical use)

IT 128-37-0, BHT, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(radical scavenger; methods and light imaging contrast media for medical use)

IT 69-65-8, D-Mannitol 7235-40-7, .beta.-Carotene  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(scavenger; methods and light imaging contrast media for medical use)

IT 53188-07-1D, Trolox, esters  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(scavengers; methods and light imaging contrast media for medical use)

IT 7782-44-7, Oxygen, processes  
RL: REM (Removal or disposal); PROC (Process)  
(singlet, quenchers for; methods and light imaging contrast media for medical use)

TI Crown-containing styryl dyes: cation-induced self-assembly of  
 multiphotochromic 15-crown-5 ethers into photoswitchable molecular devices  
 AU Ushakov, Evgeny N.; Gromov, Sergei P.; Buevich, Alexei V.; Baskin, Igor  
 I.; Fedorova, Olga A.; Vedernikov, Artem I.; Alfimov, Michael V.;  
 Eliasson, Bertil; Edlund, Ulf  
 CS Institute of Chemical Physics Research, Russian Academy of Sciences,  
 Chernogolovka, 142432, Russia  
 SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic  
 Chemistry (1999), (3), 601-608  
 CODEN: JCPKBH; ISSN: 0300-9580  
 PB Royal Society of Chemistry  
 DT Journal  
 LA English  
 CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
 Sensitizers)  
 Section cross-reference(s): 68, 73  
 AB The s-conformations of zwitterionic benzothiazole trans-styryl  
 benzo-15-crown ether dyes were studied by <sup>1</sup>H NMR spectroscopy in CD<sub>3</sub>CN  
 soln. It was shown that in most of the dyes intramol. ion pairs between  
 the SO<sub>3</sub><sup>-</sup> group and the pos. charged nitrogen atom of the benzothiazolium  
 residue are formed. The complex formation of the trans- and cis-isomers  
 of the dyes with Mg<sup>2+</sup> in MeCN was studied spectrophotometrically. The  
 anion-"capped" complexes formed by the cis-isomers were found to be more  
 stable than the complexes formed by the corresponding trans-isomers. The  
 stability consts. of the complexes formed by the cis-isomers depend  
 markedly on length and type of the N-substituent. Data from PM3  
 quantum-chem. calcns. were used for the interpretation of some exptl.  
 data.  
 ST benzothiazolium styryl crown ether dye photochromic; photoswitchable mol  
 device dye self assembly  
 IT Cyanine dyes  
 \*\*\*Optical\*\*\* switches  
 Self-assembly  
 (cation-induced self-assembly of multiphotochromic crown-contg. styryl  
 dyes into photoswitchable mol. devices)  
 IT Bond angle  
 (dihedral; in multiphotochromic crown-contg. styryl dyes)  
 IT Photochromic materials  
 Photochromic materials  
 (dyes; cation-induced self-assembly of multiphotochromic crown-contg.  
 styryl dyes into photoswitchable mol. devices)  
 IT Electric switches  
 (mol.; cation-induced self-assembly of multiphotochromic crown-contg.  
 styryl dyes into photoswitchable mol. devices)  
 IT Formation constant  
 Formation enthalpy  
 (of complexation of multiphotochromic crown-contg. styryl dyes with  
 magnesium)  
 IT Dyes  
 Dyes  
 (photochromic; cation-induced self-assembly of multiphotochromic  
 crown-contg. styryl dyes into photoswitchable mol. devices)  
 IT \*\*\*136195-70-5\*\*\* \*\*\*139775-63-6\*\*\* \*\*\*139775-64-7\*\*\*  
 \*\*\*142417-12-7\*\*\* \*\*\*142417-13-8\*\*\* \*\*\*160471-74-9\*\*\*  
 \*\*\*189384-11-0\*\*\* \*\*\*205388-73-4\*\*\* \*\*\*205388-75-6\*\*\*  
 \*\*\*205388-77-8\*\*\* \*\*\*205388-78-9\*\*\* 225938-32-9 225938-33-0  
 225938-34-1 225938-35-2  
 RL: DEV (Device component use); PEP (Physical, engineering or chemical  
 process); PRP (Properties); TEM (Technical or engineered material use);  
 PROC (Process); USES (Uses)  
 (dye; cation-induced self-assembly of multiphotochromic crown-contg.  
 styryl dyes into photoswitchable mol. devices)

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Alfimov, M; Russ Chem Bull, (Engl Transl) 1993, V42, P1385
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(9) Gromov, S; Dokl Akad Nauk SSSR 1991, V321, P104 CAPLUS  
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 (22) Gromov, S; Russ Chem Bull, (Engl Transl) 1996, V45, P654  
 (23) Gromov, S; Russ Chem Bull, (Engl Transl) 1997, V46, P1143 CAPLUS  
 (24) Gromov, S; Russ Chem Bull, (Engl Transl) 1997, V46, P611 CAPLUS  
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 (38) Ushakov, E; Dokl Chem, (Engl Transl) 1992, V323, P164  
 (39) Ushakov, E; Izv Akad Nauk Ser Khim 1997, P484  
 (40) Ushakov, E; Russ Chem Bull, (Engl Transl) 1997, V46, P463 CAPLUS

L12 ANSWER 47 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1998:790496 CAPLUS  
 DN 130:88226  
 ED Entered STN: 17 Dec 1998  
 TI DVD-R-type \*\*\*optical\*\*\* recording medium and method of recording  
 \*\*\*information\*\*\*  
 IN Morishima, Shinichi; Inagaki, Yoshio; Ishida, Kazuo  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 47 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM B41M005-26  
 ICS C07D487-04; C09B023-00; G11B007-24  
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 10324065   | A2   | 19981208 | JP 1997-254312  | 19970903 |
| PRAI | JP 1997-92939 | A    | 19970326 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|-------------|-------|--|
| JP 10324065 | ICM   | B41M005-26   |
|             | ICS   | C07D487-04; C09B023-00; G11B007-24   |
|             | IPCI  | B41M0005-26 [ICM,6]; C07D0487-04 [ICS,6]; C09B0023-00 [ICS,6]; G11B0007-24 [ICS,6] |

OS MARPAT 130:88226  
 AB The title recording medium contains an org. dye and an org. oxidizing agent in a recording layer formed on a transparent disk substrate with the track pitch of 0.6-0.9 .mu.m. The org. dye such as a cyanine dye may have an oxidn. potential of 0.5-1.2 V. The org. oxidizing agent may have the max. absorption wavelength 100-300 nm longer than that of the org. dye. The method of recording \*\*\*information\*\*\* was also claimed. The title recording medium showed light fastness and durability without losing reading characteristics.  
 ST digital video disk \*\*\*optical\*\*\* recording medium; DVD \*\*\*optical\*\*\* recording medium

IT Cyanine dyes  
 \*\*\*Optical\*\*\* disks  
 Oxidizing agents  
 (DVD-R-type \*\*\*optical\*\*\* recording medium contg. org. dye and org. oxidizing agent)

IT 106-51-4, 2,5-Cyclohexadiene-1,4-dione, uses 117-80-6 118-75-2, uses 1050-82-4 1518-16-7 2490-58-6 2892-63-9 7723-73-1 18389-97-4 21003-99-6 56403-63-5 56403-68-0 82091-48-3 83073-11-4 99794-32-8 202351-36-8 202351-37-9 202351-39-1  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (DVD-R-type \*\*\*optical\*\*\* recording medium contg. org. dye and org. oxidizing agent)

IT 24118-26-1P  
 RL: DEV (Device component use); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (DVD-R-type \*\*\*optical\*\*\* recording medium contg. org. dye and org. oxidizing agent)

IT 32045-42-4 95415-20-6 218767-26-1 \*\*\*218767-28-3\*\*\* 218767-30-7  
 RL: DEV (Device component use); MSC (Miscellaneous); USES (Uses)  
 (DVD-R-type \*\*\*optical\*\*\* recording medium contg. org. dye and org. oxidizing agent)

IT 327-51-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (DVD-R-type \*\*\*optical\*\*\* recording medium contg. org. dye and org. oxidizing agent)

IT 452-94-8P 3908-48-3P 73318-01-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (DVD-R-type \*\*\*optical\*\*\* recording medium contg. org. dye and org. oxidizing agent)

IT 73318-02-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (DVD-R-type \*\*\*optical\*\*\* recording medium contg. org. dye and org. oxidizing agent)

L12 ANSWER 48 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1998:157342 CAPLUS  
 DN 128:215272  
 ED Entered STN: 16 Mar 1998  
 TI Monocyclic functional dyes for contrast enhancement in \*\*\*optical\*\*\* imaging  
 IN Fung, Ella Y.; Rajagopalan, Raghavan  
 PA USA  
 SO U.S., 5 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC ICM A61K049-00  
 ICS G01N031-00; G01N033-48  
 INCL 424009600  
 CC 9-16 (Biochemical Methods)  
 Section cross-reference(s): 41, 63

FAN.CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------------|------|----------|-----------------|----------|
| -----               | ---  | -----    | -----           | -----    |
| PI US 5723104       | A    | 19980303 | US 1996-645305  | 19960513 |
| PRAI US 1996-645305 |      | 19960513 |                 |          |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES                            |
|------------|-------|---|
| -----      | ----  | -----   |
| US 5723104 | ICM   | A61K049-00  |
|            | ICS   | G01N031-00; G01N033-48  |
|            | INCL  | 424009600   |
|            | IPCI  | A61K0049-00 [ICM,6]; G01N0031-00 [ICS,6]; G01N0033-48 [ICS,6] |
|            | NCL   | 424/009.600; 424/001.110; 424/009.100                         |
|            | ECLA  | A61K049/00P4F; G01N033/52                                     |

OS MARPAT 128:215272  
 AB The prepn. and uses of cyanine dyes with desirable photophys. and and targeting properties in imaging of biol. tissues are described. Thus, dimethylbenzothiazolium monocarbothiphen iodide was prepd. by the

reaction of 5-bromo-2-thiphenecarboxaldehyde with 1,2-dimethylbenzothiazolium iodide.  
ST dye cyanine \*\*\*optical\*\*\* imaging prepn; contrast agent tissue dye cyanine prepn; dimethylbenzothiazolium monocarbothiphenene iodide imaging agent prepn  
IT Imaging agents  
(contrast; prepn. of monocyclic functional dyes for contrast enhancement in \*\*\*optical\*\*\* imaging)  
IT Animal tissue  
Cyanine dyes  
Imaging  
Tomography  
(prepn. of monocyclic functional dyes for contrast enhancement in \*\*\*optical\*\*\* imaging)  
IT 1899-24-7 2785-06-0 4701-17-1 204317-03-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(prepn. of monocyclic functional dyes for contrast enhancement in \*\*\*optical\*\*\* imaging)  
IT \*\*\*204317-00-0P\*\*\* \*\*\*204317-01-1P\*\*\* \*\*\*204317-02-2P\*\*\*  
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(prepn. of monocyclic functional dyes for contrast enhancement in \*\*\*optical\*\*\* imaging)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

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- (2) Bereza; Zh Pr Kl Spektvosk 1971, V15(4), P630 CAPLUS
- (3) Dyadyusha; Pisma zh Eksp Teor Fiz 1971, V14(5), P330 CAPLUS
- (4) Horan; US 4762701 1988 CAPLUS
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- (6) Shuleznko; Zh Org Khim 1968, V4(12), P2207
- (7) Tikhonov; Kvantovaya Elektron (Kiev) 1972, 6, P48

L12 ANSWER 49 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1998:147059 CAPLUS  
DN 128:174197  
ED Entered STN: 11 Mar 1998  
TI Photothermographic recording material comprising IR-sensitizing dye  
IN Deroover, Geert; Callant, Paul; Uytterhoeven, Herman  
PA Agfa-Gevaert N.V., Belg.  
SO Eur. Pat. Appl., 34 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
IC ICM G03C001-498  
ICS G03C005-16; G03C001-20; G03C001-28  
CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | EP 821272   | A1   | 19980128 | EP 1997-201905  | 19970621 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI |      |          |                 |          |
|      | US 5958667  | A    | 19990928 | US 1997-889484  | 19970708 |
|      | JP 10073901   | A2   | 19980317 | JP 1997-211221  | 19970723 |
| PRAI | EP 1996-202101  | A    | 19960724 |                 |          |

CLASS

| PATENT NO.  | CLASS  | PATENT FAMILY CLASSIFICATION CODES  |
|-------------|--------|---|
| EP 821272   | ICM    | G03C001-498   |
|             | ICS    | G03C005-16; G03C001-20; G03C001-28  |
|             | IPCI   | G03C0001-498 [ICM,6]; G03C0005-16 [ICS,6]; G03C0001-20 [ICS,6]; G03C0001-28 [ICS,6] |
| US 5958667  | ECLA   | G03C001/28; G03C001/498E1A  |
|             | IPCI   | G03C0001-20 [ICM,6]; G03C0001-498 [ICS,6]   |
|             | NCL    | 430/584.000; 430/573.000; 430/588.000; 430/619.000; 430/944.000                     |
|             | ECLA   | G03C001/28; G03C001/498E1A  |
| JP 10073901 | IPCI   | G03C0001-498 [ICM,6]; G01J0005-48 [ICS,6]   |
| OS          | MARPAT | 128:174197  |
| GI          |        |   |



AB A photothermog. recording material comprises a support and a photoaddressable thermally developable element contg. a substantially light-insensitive org. silver salt, a reducing agent therefor in thermal working relationship therewith, a photosensitive silver halide spectrally sensitized to wavelengths >700 nm with a dye and in catalytic assocn. with the substantially light-insensitive org. silver salt and a water-sol. binder, a water-dispersible binder, or a mixt. of a water-sol. and a water-dispersible binder, characterized in that the photothermog. recording material has an IR sensitivity of less than 80 J/m<sup>2</sup> and the dye satisfies the following test: an exposure required by a photothermog. recording material A, consisting of a polyester 100 .mu.m thick support provided with a photoaddressable thermally developable element produced as described in the description and including the dye and a compd. corresponding to the formula I is >90% of an exposure required by a photothermog. recording material B produced as described for the photothermog. recording material A except that the compd. is omitted. The exposure of the materials A and B is that required to obtain an \*\*\*optical\*\*\* d. in an exposed part thereof 0.5 higher than in an nonexposed part thereof when exposed to IR light to which it is sensitive and heating with a heat source at 105.degree. for 15 s with the polyester support thereof in contact with the heat source.

ST IR photothermog material bistriazine supersensitizer

IT Photographic sensitizers

(IR photothermog. materials contg.)

IT Photographic films

(IR, heat-developable; contg. bistriazine compds.)

IT Photothermographic copying

(photosensitive compns. contg. IR-sensitizers and bistriazine supersensitizers for)

IT 202658-73-9 \*\*\*202658-75-1\*\*\* \*\*\*202658-77-3\*\*\* 202658-81-9

202658-83-1 202658-87-5 202921-35-5

RL: TEM (Technical or engineered material use); USES (Uses)

(IR photothermog. materials contg. supersensitizing compns. contg. bistriazine compds. and)

IT 202715-48-8

RL: TEM (Technical or engineered material use); USES (Uses)

(IR photothermog. materials contg. supersensitizing compns. contg. cyanine dyes and)

IT 26775-57-5P 202658-88-6P 202658-89-7P 202658-90-0P 202921-36-6P

RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(prepn. and reaction in prepg. cyanine dye sensitizer for IR photothermog. materials)

IT 79-04-9 105-53-3 107-02-8, 2-Propenal, reactions 120-75-2 122-51-0 3144-09-0, Methanesulfonamide

RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)

(reaction in prepg. cyanine dye sensitizer for IR photothermog. materials)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Agfa Gevaert Nv; EP 0609571 A 1994 CAPLUS

(2) Canon Kk; EP 0486246 A 1992 CAPLUS

(3) Fuji Photo Film Kk; JP 63023145 A 1988 CAPLUS

(4) Fuji Photo Film Kk; Patent abstracts of Japan 1988, PP723

(5) Konishiroku Photo Kk; JP 58028737 A CAPLUS

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(10) Verdone, J; RESEARCH DISCLOSURE 1979, 186, P573

L12 ANSWER 50 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:43985 CAPLUS

DN 128:196958

ED Entered STN: 26 Jan 1998

TI Monolayers of an amphiphilic crown-ether styryl dye  
AU Zaitsev, S. Yu.; Gromov, S. P.; Fedorova, O. A.; Baryshnikova, E. A.;  
Vereschetin, V. P.; Zeiss, W.; Huesmann, H.; Alfimov, M. V.; Mobius, D.  
CS Institute of Bioorganic Chemistry, Russian Academy of Sciences, ul.  
Miklucho-Maklaya 16/10, Moscow, 117871, Russia  
SO Colloids and Surfaces, A: Physicochemical and Engineering Aspects (1998),  
131(1-3), 325-332  
CODEN: CPEAEH; ISSN: 0927-7757  
PB Elsevier Science B.V.  
DT Journal  
LA English  
CC 66-2 (Surface Chemistry and Colloids)  
AB The crown-ether styryl dye I was synthesized and its monolayers were  
prepd. The surface-active and \*\*\*optical\*\*\* properties of dye I were  
studied. The surface pressure-mol. area and surface potential-mol. area  
isotherms for mixed monolayers of dye I and dipalmitoylphosphatidic acid  
at various aq. salt subphases were measured.  
ST monolayer amphiphilic crown ether styryl dye  
IT Surface potential  
(-area isotherm; of amphiphilic benzo-18-crown-6 styryl dye monolayers  
and dipalmitoylphosphatidic acid mixts. at various aq. salt subphases)  
IT Ion selectivity  
(cationic; of amphiphilic benzo-18-crown-6 styryl dye monolayers and  
dipalmitoylphosphatidic acid mixts. at various aq. salt subphases)  
IT Isomerization  
(cis-trans; of benzo-18-crown-6 styryl dye in monolayers on aq. solns.  
and aq. solns. contg. DPPA from reflection spectra)  
IT Surface pressure-area isotherms  
(of amphiphilic benzo-18-crown-6 styryl dye monolayers and  
dipalmitoylphosphatidic acid mixts. at various aq. salt subphases)  
IT Reflection spectra  
(of benzo-18-crown-6 styryl dye monolayers on aq. solns.)  
IT Monolayers  
(surface pressure-mol. area and surface potential-mol. area isotherms  
of monolayers of amphiphilic benzo-18-crown-6 styryl dye with  
dipalmitoylphosphatidic acid)  
IT 19698-29-4, Dipalmitoylphosphatidic acid  
RL: PEP (Physical, engineering or chemical process); PRP (Properties);  
PROC (Process)  
(of amphiphilic benzo-18-crown-6 styryl dye monolayers and  
dipalmitoylphosphatidic acid mixts. at various aq. salt subphases)  
IT \*\*\*203782-39-2P\*\*\*  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN  
(Synthetic preparation); PREP (Preparation); PROC (Process)  
(surface pressure-mol. area and surface potential-mol. area isotherms  
of monolayers of amphiphilic benzo-18-crown-6 styryl dye with  
dipalmitoylphosphatidic acid)

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Balashov, S; Biol Membr 1990, V7, P1205 CAPLUS
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- (29) Yu, S; Thin Solid Films 1994, V248, P78
- (30) Zhang, X; Thin Solid Films 1992, V210/211, P628
- (31) Zhu, Y; J Chem Phys 1994, V101, P10023 CAPLUS

L12 ANSWER 51 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:713769 CAPLUS

DN 127:359957

ED Entered STN: 12 Nov 1997

TI Photochromic crown ethers 1. Formation of ion pairs, trans-cis-isomerization, and metal ion binding in a nonpolar medium

AU Tsybyshev, V. P.; Livshits, V. A.; Meshkov, B. B.; Fedorova, O. A.; Gromov, S. P.; Alfimov, M. V.

CS N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, Moscow, 117977, Russia

SO Russian Chemical Bulletin (Translation of Izvestiya Akademii Nauk, Seriya Khimicheskaya) (1997), 46(7), 1239-1244

CODEN: RCBUEY; ISSN: 1066-5285

PB Consultants Bureau

DT Journal

LA English

CC 41-5 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

AB An amphiphilic crown-contg. styryl dye was synthesized, and the effects of irradiation, temperature, and alkali and alk.-earth metal ions on the cond. and \*\*\*optical\*\*\* spectra of its solns. in dioctyl phthalate were studied. The dye in the trans-form almost completely exists as ion pairs (IP). Irradiation at a long-wavelength absorption maximum results in a reversible increase in the cond. and, hence, a degree of dissociation of IP ( $\alpha$ ); these parameters decrease when complexes with metal ions are formed. The relaxation times for the photoinduced cond. coincide with a decrease in the extinction within experimental error in the 20-60 degree C temperature range. The photoinduced increase in  $\alpha$  is caused by trans-cis isomerization and an increase in steric hindrances for the interaction of the ClO<sub>4</sub><sup>-</sup> anion with the N<sup>+</sup> atom of the benzothiazolium group in the cis-form of the dye. The activation energies for the dark cis-trans relaxation, absorption  $\alpha$  values, and thermodynamic parameters of dissociation of IP in the trans-form, as well as the  $\alpha$  values in a photostationary mixture of cis-trans isomers, were established. The decrease in  $\alpha$  after binding with metal ions is likely caused by the redistribution of the positive charge to benzothiazolium through the conjugated system of the dye. Correlations between the decrease in cond. (decrease in  $\alpha$ ) and the hypsochromic shift  $\Delta\lambda_{max}$  after the formation of complexes between the dye and metal ions were observed.

ST styryl crown ether dye preparation isomerization; ion pair styryl crown ether dye; complexation styryl crown ether dye

IT Isomerization

Isomerization

(cis-trans, photochem.; formation of ion pairs, cis-trans isomerization, and metal ion binding of a styryl crown ether-contg. dye in nonpolar medium)

IT Electric conductivity

Ion pairs

Photochromism

Photoconductivity

(formation of ion pairs, cis-trans isomerization, and metal ion binding of a styryl crown ether-contg. dye in nonpolar medium)

IT Crown ethers

RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(formation of ion pairs, cis-trans isomerization, and metal ion binding of a styryl crown ether-contg. dye in nonpolar medium)

IT \*\*\*198481-86-6P\*\*\*

RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (formation of ion pairs, cis-trans isomerization, and metal ion binding of a styryl crown ether-contg. dye in nonpolar medium)  
 IT \*\*\*198481-90-2P\*\*\* \*\*\*198481-92-4P\*\*\* \*\*\*198481-94-6P\*\*\*  
 \*\*\*198481-96-8P\*\*\* \*\*\*198481-98-0P\*\*\*  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (formation of ion pairs, cis-trans isomerization, and metal ion binding of a styryl crown ether-contg. dye in nonpolar medium)  
 IT 60835-74-7 198481-88-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (starting material; formation of ion pairs, cis-trans isomerization, and metal ion binding of a styryl crown ether-contg. dye in nonpolar medium)  
 RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
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 (2) Anon; Sintezy organicheskikh preparatov [Syntheses of Organic Preparations] 1962, V3, P250  
 (3) Anon; Spravochnik khimika [Chemist's Handbook] 1964, V3, P712  
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 (7) Gromov, C; Dokl Chem 1991  
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 (18) Yuzhakov, V; Usp Khim 1979, V48, P2007 CAPLUS  
 L12 ANSWER 52 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1997:642053 CAPLUS  
 DN 127:339098  
 ED Entered STN: 10 Oct 1997  
 TI Pulse photolysis of crown ether styryl dyes and their complexes with metal ions  
 AU Atabekyan, L. S.; Chibisov, A. K.; Alfimov, M. V.  
 CS Russian Acad. Sci., Semenov Inst. Chem. Phys., Moscow, 117977, Russia  
 SO High Energy Chemistry (Translation of Khimiya Vysokikh Energii) (1997), 31(5), 344-348  
 CODEN: HIECAP; ISSN: 0018-1439  
 PB MAIK Nauka/Interperiodica  
 DT Journal  
 LA English  
 CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 AB Photochromic transformations of crown ether styryl dyes and their complexes with Na<sup>+</sup>, Ca<sup>2+</sup>, Mg<sup>2+</sup>, Ag<sup>+</sup> were studied with the pulse photolysis technique. The photochromic transformations were shown to occur with the participation of nonequil. trans- and cis-isomers (conformers) of dye mols. It was found that the metal ion does not affect the kinetics of photoisomerization of crown ether styryl dyes.  
 ST photochromism crown ether styryl dye; metal complex crown ether styryl dye; photolysis crown ether styryl dye complex  
 IT Isomerization  
 Isomerization  
 (cis-trans, photochem.; photolysis study of photochromic crown ether styryl dyes and their complexes with metal ions)  
 IT \*\*\*Optical\*\*\* absorption  
 Photochromism  
 (photolysis study of photochromic crown ether styryl dyes and their complexes with metal ions)  
 IT Photolysis  
 (pulsed; photolysis study of photochromic crown ether styryl dyes and their complexes with metal ions)

IT 14127-61-8D, Calcium(2+), complexes with crown ether styryl dyes, reactions 14701-21-4D, complexes with crown ether styryl dyes, reactions 17341-25-2D, Sodium(1+), complexes with crown ether styryl dyes, reactions 22537-22-0D, Magnesium(2+), complexes with crown ether styryl dyes, reactions \*\*\*136195-69-2D\*\*\* , complexes with metal ions  
\*\*\*136195-70-5\*\*\* \*\*\*136195-71-6\*\*\* 138998-68-2D, complexes with metal ions \*\*\*142417-13-8\*\*\* 144796-44-1 \*\*\*146083-47-8\*\*\*  
197841-46-6 \*\*\*197841-47-7\*\*\* \*\*\*197841-48-8\*\*\*  
\*\*\*197841-49-9\*\*\* \*\*\*197841-50-2\*\*\* \*\*\*197841-51-3\*\*\*  
\*\*\*197841-52-4\*\*\* \*\*\*197841-53-5\*\*\* \*\*\*197841-54-6D\*\*\* ,  
complexes with metal ions \*\*\*197841-55-7D\*\*\* , complexes with metal ions \*\*\*197841-56-8D\*\*\* , complexes with metal ions  
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
(photolysis study of photochromic crown ether styryl dyes and their complexes with metal ions)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Alfimov, M; Chem Phys Lett 1991, V185(5-6), P455 CAPLUS
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L12 ANSWER 53 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:462386 CAPLUS

DN 127:212449

ED Entered STN: 24 Jul 1997

TI Photochromism of organic compounds in polymolecular layers

AU Barachevsky, Valery; Chudinova, Galina

CS Photochemistry Department Institute Chemical Physics, Russian Academy Sciences, Moscow, 117421, Russia

SO Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1997), 298, 457-464  
CODEN: MCLCE9; ISSN: 1058-725X

PB Gordon & Breach

DT Journal

LA English

CC 74-9 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

AB The anal. of the results of study in the field of chem. and phys. photochromism for certain org. compds. from spiropyrans, aryloxyquinones, aza - and crown - contg. dyes in Langmuir-Blodgett films is presented. The results of these investigations open new perspectives for development of light-sensitive recording media and reversible \*\*\*optical\*\*\* chemosensors.

ST photochromism photochromic polymol layer; \*\*\*optical\*\*\* memory disk  
Langmuir Blodgett film

IT Langmuir-Blodgett multilayers

Langmuir-Blodgett multilayers

\*\*\*Optical\*\*\* disks

Photochromic materials

Photochromism

(photochromism of org. compds. in polymol. layers)

IT \*\*\*Optical\*\*\* sensors

(reversible \*\*\*optical\*\*\* chemosensor; photochromism of org. compds. in polymol. layers)

IT 35058-42-5D, derivs. 60168-17-4 91854-33-0 \*\*\*140613-53-2\*\*\*

194608-33-8 194608-34-9 194608-35-0D, derivs. \*\*\*194608-37-2\*\*\*

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(photochromism of org. compds. in polymol. layers)

L12 ANSWER 54 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1997:207059 CAPLUS  
DN 126:205510  
ED Entered STN: 29 Mar 1997  
TI Negative-working silver salt diffusion transfer lithographic plate  
containing sensitizing dye  
IN Yoshiki, Takenobu  
PA Mitsubishi Paper Mills Ltd, Japan  
SO Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM G03F007-07  
ICS G03C001-00; G03C001-20; G03C008-06; G03F007-00  
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
-----  
PI JP 09006005 A2 19970110 JP 1995-153751 19950621  
PRAI JP 1995-153751 19950621

CLASS  
PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES  
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JP 09006005 ICM G03F007-07  
ICS G03C001-00; G03C001-20; G03C008-06; G03F007-00  
IPCI G03F0007-07 [ICM,6]; G03C0001-00 [ICS,6]; G03C0001-20  
[ICS,6]; G03C0008-06 [ICS,6]; G03F0007-00 [ICS,6]

GI  
  
/ Structure 25 in file .gra /

AB The title lithog. plate contains, on a support, .gtoreq.1 phys. developing  
nucleus layer and a Ag halide emulsion layer contg. a pre-fogged direct  
pos. Ag halide emulsion and a sensitizing dye I (R1, R2 = H, alkyl,  
aralkenyl, alkoxy, aryl, amino, halo, nitro; R3 = alkyl, aralkyl, alkenyl,  
aryl; Z = atoms required to form a 5- or 6-membered N-contg. heterocycle;  
X- = anion; m, n = 1, 2). The lithog. plate shows high sensitivity toward  
\*\*\*laser\*\*\* beams and printing durability.  
ST silver salt diffusion transfer lithog plate; sensitizing dye lithog silver  
salt emulsion  
IT Lithographic plates  
(diffusion-transfer; silver salt diffusion-transfer lithog. plate  
contg. sensitizing dye)  
IT Photographic sensitizers  
(silver salt diffusion-transfer lithog. plate contg. sensitizing dye)  
IT \*\*\*187804-38-2\*\*\* \*\*\*187804-39-3\*\*\* 187804-41-7  
\*\*\*187804-42-8\*\*\* \*\*\*187804-43-9\*\*\*  
RL: DEV (Device component use); MOA (Modifier or additive use); USES  
(Uses)  
(silver salt diffusion-transfer lithog. plate contg. sensitizing dye)

L12 ANSWER 55 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1996:758585 CAPLUS  
DN 126:24874  
ED Entered STN: 26 Dec 1996  
TI Negative-working diffusion-transfer lithographic plate containing  
pyrazolopyridine sensitizing dyes  
IN Yoshiki, Takenobu; Tanaka, Akira; Saikawa, Masahiko  
PA Mitsubishi Paper Mills Ltd, Japan  
SO Jpn. Kokai Tokkyo Koho, 10 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM G03F007-07  
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
-----  
PI JP 08248637 A2 19960927 JP 1995-53841 19950314

## CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

JP 08248637 ICM G03F007-07  
IPCI G03F0007-07 [ICM,6]

OS MARPAT 126:24874

GI

/ Structure 26 in file .gra /

AB The lithog. plate comprises a support having thereon .gtoreq.1 phys. development nucleus layer and .gtoreq.1 photosensitive Ag halide emulsion layer contg. a prefogged direct-pos. emulsion and a sensitizing dye I (R1-4 = H, alkyl, alkenyl, alkoxy, aryl, amino, halo, NO<sub>2</sub>; R2-3 and/or R4-5 may be bonded to form a condensed benzene ring which may be substituted with lower alkyl, lower alkoxy, halo; R5 = H, alkyl, aryl, heterocyclyl; R6 = alkyl, aryl, alkenyl; Z = atom. group required to form a 5-6-membered N-contg. ring; X- = anion; m = 0, 1). The printing plate shows high sensitivity to \*\*\*laser\*\*\*, e.g. Ar \*\*\*laser\*\*\*, and has good printing durability.

ST presensitized lithog plate pyrazolopyridine sensitizer; printing plate lithog pyrazolopyridine sensitizer; diffusion transfer lithog plate sensitizer

IT Lithographic plates

(diffusion-transfer; neg.-working diffusion-transfer lithog. plate contg. pyrazolopyridine sensitizing dyes)

IT Dyes

(pyrazolopyridine-contg.; neg.-working diffusion-transfer lithog. plate contg. pyrazolopyridine sensitizing dyes)

IT 184486-65-5 \*\*\*184486-66-6\*\*\* 184486-67-7 \*\*\*184486-68-8\*\*\*  
\*\*\*184486-69-9\*\*\* \*\*\*184486-70-2\*\*\* 184486-71-3

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(neg.-working diffusion-transfer lithog. plate contg. pyrazolopyridine sensitizing dyes)

L12 ANSWER 56 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:618427 CAPLUS

DN 126:24240

ED Entered STN: 17 Oct 1996

TI Gigantic Raman-active substrates based on thin silver films annealed at high temperatures: a comparative study by techniques of atomic-force microscopy and giant Raman scattering spectroscopy

AU Maskevich, S. A.; Sveklo, I. F.; Feofanov, A. V.; Yanul, A. I.; Oleinikov, V. A.; Gromov, S. P.; Fedorova, O. A.; Alfimov, M. V.; Nabiev, I. R.; et al.

CS State Univ. Grodno, Grodno, 230023, Belarus

SO Optika i Spektroskopiya (1996), 81(1), 95-102

CODEN: OPSPAM; ISSN: 0030-4034

PB MAIK Nauka

DT Journal

LA Russian

CC 73-3 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 66

AB Effect of high-temp. annealing on \*\*\*optical\*\*\* properties and surface structure of Ag thin films used as substrates for realization of giant Raman scattering of light. The annealing leads to shift of max. of plasma resonance of the films. Increase in stability with respect to action of org. solvents and decrease in degrdn. of Raman scattering amplification properties of the films are also obsd. Quasi-periodic system of inhomogeneities of ellipsoid-type is formed on the surface of the films after annealing. Max. of the surface induced amplification of Raman signal shifts after annealing. Possibilities of study of structure of mols. absorbed on the surface, processes of complex formation in org. solvents and Langmuir-Blodgett monolayers are demonstrated by example of rhodamine 6G, diphenylhexatriene, crown-contg. styryl dyes.

ST Raman gigantic scattering silver film annealing; crown ether deriv gigantic Raman silver; rhodamine 6G Raman gigantic silver; hexatriene

diphenyl Raman gigantic silver; surface structure silver annealing Raman gigantic; styryl crown ether deriv Raman silver

IT Annealing  
(effect on \*\*\*optical\*\*\* properties and surface structure of Ag thin films)

IT Raman spectra  
(electromagnetic mechanism of amplification of; in Ag thin films covered by org. films before and after high-temp. annealing)

IT Surface structure  
(of Ag thin films before and after annealing)

IT UV and visible spectra  
(of \*\*\*optical\*\*\* transmission of Ag thin films before and after annealing)

IT Dyes  
(styryl crown ether; giant Raman scattering of light in crown-contg. styryl dyes on silver)

IT Crown ethers  
RL: PRP (Properties)  
(styryl deriv. dyes; of \*\*\*optical\*\*\* transmission of Ag thin films before and after annealing)

IT 7440-22-4, Silver, properties  
RL: PRP (Properties)  
(effect of high-temp. annealing on Raman scattering amplification and surface structure of thin films of)

IT 989-38-8, Rhodamine 6G 1720-32-7, 1,6-Diphenyl-1,3,5-hexatriene  
\*\*\*184361-95-3\*\*\* \*\*\*184361-98-6\*\*\*  
RL: PRP (Properties)  
(layer on Ag thin film; giant Raman scattering of light in)

L12 ANSWER 57 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:463087 CAPLUS

DN 125:208151

ED Entered STN: 06 Aug 1996

TI Photoprocesses in spiropyran complexes of metal ions

AU Atabekyan, L. S.; Chibisov, A. K.

CS Semenov Inst. of Chem. Phys., Russian Academy of Sci., Moscow, 117977, Russia

SO High Energy Chemistry (Translation of Khimiya Vysokikh Energii) (1996), 30(4), 261-266  
CODEN: HIECAP; ISSN: 0018-1439

PB MAIK Nauka/Interperiodica

DT Journal

LA English

CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

AB Photonics of the spiropyran (1',1',3'-trimethyl-6-nitro-8-methoxyspiro[2H-1-benzopyran-2,2'-indoline]) complexes of transition metal (Zn<sup>2+</sup>, Cd<sup>2+</sup>, Co<sup>2+</sup>, etc.) and rare-earth element (La<sup>3+</sup>, Nd<sup>3+</sup>, Er<sup>3+</sup>, etc.) ions was studied by the nanosecond \*\*\*laser\*\*\* photolysis technique. It was found that deactivation of electronically excited states occurs as a result of fluorescence, intersystem crossing into the triplet state, phosphorescence, and intramol. energy transfer. The triplet state is shown to be responsible for photodisocn. of a complex.

ST spiropyran metal complex photophysics photolysis; fluorescence intersystem crossing metal spiropyran complex; triplet state deactivation metal spiropyran complex

IT Fluorescence  
Phosphorescence  
Photolysis  
(photochem. and photophysics of spiropyran complexes with metal ions in relation to)

IT Energy level transition  
(intersystem crossing, photochem. and photophysics of spiropyran complexes with metal ions in relation to)

IT Energy level transition  
(triplet, photochem. and photophysics of spiropyran complexes with metal ions in relation to)

IT 7779-88-6, Zinc nitrate 10024-93-8, Neodymium chloride 10025-74-8, Dysprosium chloride 10025-76-0, Europium chloride 10043-27-3, Terbium nitrate 10045-95-1, Neodymium nitrate 10099-58-8, Lanthanum chloride 10099-66-8, Lutetium chloride 10099-74-8, Lead nitrate 10108-64-2, Cadmium chloride 10138-41-7, Erbium chloride 10138-62-2, Holmium



chloride 10143-38-1, Dysprosium nitrate 10168-80-6, Erbium nitrate 10325-94-7, Cadmium nitrate 10361-79-2, Praseodymium chloride 10361-80-5, Praseodymium nitrate 10361-83-8, Samarium nitrate 10361-91-8, Ytterbium chloride 10361-93-0, Yttrium nitrate 13537-18-3, Thulium chloride

RL: PEP (Physical, engineering or chemical process); PROC (Process)  
(photochem. and photophysics of metal ion spiropyran complexes in soln. contg.)

IT 1498-89-1D, metal complexes 156301-76-7D, metal complexes  
\*\*\*181269-20-5\*\*\* \*\*\*181269-21-6\*\*\* 181269-22-7  
\*\*\*181269-23-8\*\*\* \*\*\*181269-24-9\*\*\* \*\*\*181269-25-0\*\*\*

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(photochem. and photophysics of spiropyran complexes with metal ions)  
IT 14280-50-3D, Lead(2+), spiropyran complexes, properties 14701-22-5D, Nickel(2+), spiropyran complexes, properties 14913-52-1D, Neodymium(3+), spiropyran complexes, properties 15158-11-9D, Copper(2+), spiropyran complexes, properties 16397-91-4D, Manganese(2+), spiropyran complexes, properties 18472-30-5D, Erbium(3+), spiropyran complexes, properties 18923-27-8D, Ytterbium(3+), spiropyran complexes, properties 22537-48-0D, Cadmium(2+), spiropyran complexes, properties 22541-14-6D, Praseodymium(3+), spiropyran complexes, properties 22541-20-4D, Terbium(3+), spiropyran complexes, properties 22541-53-3D, Cobalt(2+), spiropyran complexes, properties 23713-49-7D, Zinc(2+), spiropyran complexes, properties 34885-13-7 50839-67-3  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(photochem. and photophysics of spiropyran complexes with metal ions in relation to)

L12 ANSWER 58 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:568405 CAPLUS

DN 122:303149

ED Entered STN: 24 May 1995

TI \*\*\*Optical\*\*\* color filter for solid state imaging device

IN Marumichi, Hirotake

PA Sony Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G02B005-20

ICS H01L027-14; H04N009-07

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 06300913    | A2   | 19941028 | JP 1993-111002  | 19930413 |
| PRAI | JP 1993-111002 |      | 19930413 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES                            |
|-------------|-------|---|
| JP 06300913 | ICM   | G02B005-20  |
|             | ICS   | H01L027-14; H04N009-07  |
|             | IPCI  | G02B0005-20 [ICM,5]; H01L0027-14 [ICS,5]; H04N0009-07 [ICS,5] |

AB The \*\*\*optical\*\*\* color filter comprises a coloring agent which is a reaction product of a dye contg. an anion and a dye contg. a cation. Preferably, both dyes are in the same color group.

ST \*\*\*optical\*\*\* color filter CCD; charge coupled device \*\*\*optical\*\*\* filter; solid state imaging device filter

IT \*\*\*Optical\*\*\* filters  
(coloring agents)

IT \*\*\*Optical\*\*\* imaging devices  
(electrooptical, charge-coupled, coloring agents for color filters)

IT 1330-38-7P, C.I.Direct Blue 86 3521-06-0P, C.I.Basic Blue 1  
3648-36-0P, C.I.Basic Red 13 4443-99-6P, C.I.Basic Black 2  
\*\*\*4657-00-5P\*\*\*, C.I.Basic Orange 22 6262-07-3P, C.I.Acid Black 26  
6459-94-5P, C.I.Acid Red 114 11111-55-0P, C.I.Basic Yellow 32  
12221-74-8P, C.I.Basic Violet 28 12768-78-4P, C.I.Acid Green 16  
61931-18-8P, C.I.Acid Red 274 72827-85-1P, C.I.Acid Yellow 141

RL: DEV (Device component use); IMF (Industrial manufacture); RCT  
(Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
( \*\*\*optical\*\*\* color filter for solid state imaging device)

L12 ANSWER 59 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1995:433821 CAPLUS  
DN 123:66541  
ED Entered STN: 22 Mar 1995  
TI Complex Formation of an Amphiphilic Benzothiazolium Styryl Chromoionophore  
with Metal Cations in a Monolayer at the Air-Water Interface  
AU Lednev, Igor K.; Petty, Michael C.  
CS School of Engineering, University of Durham, Durham, DH1 3LE, UK  
SO Journal of Physical Chemistry (1995), 99(12), 4176-80  
CODEN: JPCHAX; ISSN: 0022-3654  
PB American Chemical Society  
DT Journal  
LA English  
CC 66-1 (Surface Chemistry and Colloids)  
AB A condensed floating monolayer of an amphiphilic benzothiazolium styryl  
dye contg. a 1,10-dithia-18-crown-6 ether group has been found to complex  
with Ag<sup>+</sup> and Hg<sup>2+</sup> cations in acidic subphases. The efficiency of the  
processes was more than 2 orders of magnitude greater than expected for  
homogeneous solns. This was attributed to the formation of L2M complexes  
(L = ligand; M = metal cation) at salt concns. of 10<sup>-7</sup> to 10<sup>-6</sup> M.  
"Sandwich" complexes with compn. LnMn-1 (n > 2) may form at higher salt  
concns. Surface pressure vs. area isotherms measured on Ag<sup>+</sup>-contg.  
subphases showed changes for Ag<sup>+</sup> concns. in the range 10<sup>-7</sup> to 10<sup>-4</sup> M.  
However, BTC Langmuir-Blodgett films built up from acidic subphases contg.  
either AgClO<sub>4</sub> or Hg(ClO<sub>4</sub>)<sub>2</sub> only exhibited hypsochromic shifts in their  
long-wavelength absorption peaks for salt concns. from 10<sup>-7</sup> to 10<sup>-6</sup> M.  
ST complexing benzothiazolium styryl chromoionophore water surface; metal  
complexing amphiphile chromoionophore water surface  
IT Adsorbed substances  
\*\*\*Optical\*\*\* absorption  
(complexing of Hg<sup>2+</sup> with amphiphilic benzothiazolium styryl dye at  
surface of aq. mercury perchlorate solns.)  
IT Reaction  
(surface, complexing of Hg<sup>2+</sup> or Ag<sup>+</sup> with amphiphilic benzothiazolium  
styryl dye at surface of aq. perchlorate solns.)  
IT 7783-93-9, Silver perchlorate 14701-21-4, Silver(1+), reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(complexing of Ag<sup>+</sup> with amphiphilic benzothiazolium styryl dye at  
surface of aq. silver perchlorate soln.)  
IT 7616-83-3, Mercury perchlorate (Hg(ClO<sub>4</sub>)<sub>2</sub>) 14302-87-5, Mercury(2+),  
reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(complexing of Hg<sup>2+</sup> with amphiphilic benzothiazolium styryl dye at  
surface of aq. mercury perchlorate solns.)  
IT \*\*\*157524-70-4\*\*\*  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(silver or mercury ion from subphase complexing at surface of aq. soln.  
of amphiphilic)

L12 ANSWER 60 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1995:358384 CAPLUS  
DN 122:163489  
ED Entered STN: 16 Feb 1995  
TI Photochemistry of a crown ether styryl dye adsorbed on silica gel and in  
acetonitrile solution: a comparative flash photolysis study  
AU Lednev, Igor K.; Alfimov, Michael V.  
CS Inst. Chem. Phys., Russian Acad. Sci., Chernogolovka, 142432, Russia  
SO Supramolecular Science (1994), 1(1), 55-61  
CODEN: SUSCFX; ISSN: 0968-5677  
PB Elsevier  
DT Journal  
LA English  
CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
Sensitizers)  
AB The photochem. behavior of a photochromic crown ether styryl dye (BOB)  
adsorbed on silica gel has been found by a steady-state technique to be  
similar to that obsd. in a fluid soln. of high polarity. The intermediate  
spectra obtained by diffuse reflectance \*\*\*laser\*\*\* flash photolysis

of BOB on silica gel in a nitrogen atm. have been preliminarily attributed to the triplet-triplet (T-T) absorption of BOB and the absorption of BOB cation radicals. For comparison, the absorption spectrum of BOB triplets with a lifetime of .apprx.0.8 .mu.s in acetonitrile soln. has been obtained using biphenyl as a sensitizer.

ST trans crown ether styryl dye; cis crown ether styryl dye; isomerization crown ether styryl dye; complex crown ether styryl dye; triplet crown ether styryl dye; silica gel adsorbed crown styryl dye

IT Ultraviolet and visible spectra  
(of crown ether styryl dye adsorbed on silica gel and in acetonitrile soln.)

IT Silica gel, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(photochem. of a crown ether styryl dye adsorbed on)

IT Isomerization  
(cis-trans, of crown ether styryl dye adsorbed on silica gel and in acetonitrile soln.)

IT Energy level  
(triplet excited, of crown ether styryl dye adsorbed on silica gel and in acetonitrile soln.)

IT 7439-95-4D, Magnesium, crown ether styryl dye complexes  
RL: PEP (Physical, engineering or chemical process); PROC (Process)  
(photochem. of a crown ether styryl dye adsorbed on silica gel and in acetonitrile soln.)

IT \*\*\*136195-70-5D\*\*\* , magnesium complexes \*\*\*136195-71-6D\*\*\* ,  
magnesium complexes  
RL: PEP (Physical, engineering or chemical process); PRP (Properties);  
PROC (Process)  
(photochem. of a crown ether styryl dye adsorbed on silica gel and in acetonitrile soln.)

IT \*\*\*136195-69-2\*\*\*  
RL: PRP (Properties)  
(photochem. of a crown ether styryl dye adsorbed on silica gel and in acetonitrile soln.)

L12 ANSWER 61 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:209211 CAPLUS

DN 122:91832

ED Entered STN: 23 Nov 1994

TI Langmuir-Blodgett films of a benzothiazolium dye containing a crown ether ring

AU Lednev, Igor K.; Petty, Michael C.

CS Sch. Eng. Computer Sci., Univ. Durham, Durham, DH1 3LE, UK

SO Advanced Materials for Optics and Electronics (1994), 4(3), 225-32  
CODEN: AMELE7; ISSN: 1057-9257

PB Wiley

DT Journal

LA English

CC 73-4 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 66

AB The structure of Langmuir-Blodgett (LB) films built up from a novel benzothiazolium steryl dye contg. a 1, 10-dithia-18-crown-6 ether group was studied using ellipsometry and polarized absorption spectroscopy. The Y-type deposition results in a uniaxial film with a thickness of 2.18 +/- 0.08 nm per monolayer and an index of refraction of 1.57 +/- 0.03. The chromophore parts of the mol. exhibit an in-plane orientation. The influence of Hg vapor on the LB films also was studied using the technique of surface plasmon resonance.

ST Langmuir Blodgett film benzothiazolium dye; benzothiazolium dye crown ether ring film; surface pressure visible spectra LB film; mol orientation plasmon surface resonance film

IT Molecular orientation  
Surface tension  
Ultraviolet and visible spectra  
(of Langmuir-Blodgett films of benzothiazolium dye contg. crown ether ring deposited on quartz or silicon)

IT Films  
(Langmuir-Blodgett, \*\*\*optical\*\*\* properties and mol. orientation of Langmuir-Blodgett films of benzothiazolium dye contg. crown ether ring deposited on)

IT Plasmon

(surface, plasmon resonance for Langmuir-Blodgett films of benzothiazolium dye contg. crown ether ring deposited on quartz or silicon)

IT 2433-96-7, Tricosanoic acid  
 RL: NUU (Other use, unclassified); USES (Uses)  
 ( \*\*\*optical\*\*\* properties and mol. orientation of Langmuir-Blodgett films of benzothiazolium dye contg. crown ether ring)

IT \*\*\*157524-70-4\*\*\*  
 RL: PRP (Properties)  
 ( \*\*\*optical\*\*\* properties and mol. orientation of Langmuir-Blodgett films of benzothiazolium dye contg. crown ether ring)

IT 7439-97-6, Mercury, properties  
 RL: PRP (Properties)  
 ( \*\*\*optical\*\*\* properties and mol. orientation of Langmuir-Blodgett films of benzothiazolium dye contg. crown ether ring affected by mercury vapors)

IT 7440-21-3, Silicon, uses 14808-60-7, Quartz, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 ( \*\*\*optical\*\*\* properties and mol. orientation of Langmuir-Blodgett films of benzothiazolium dye contg. crown ether ring deposited on)

L12 ANSWER 62 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1994:445243 CAPLUS  
 DN 121:45243  
 ED Entered STN: 23 Jul 1994  
 TI kinetic investigations of near IR polymethine dyes with sub-picosecond time resolution  
 AU Varanavicius, A.; Gudelis, V.; Danielius, R.; Podenas, D.; Slavenas, J.J.  
 CS Vilnius Univ., Lithuania  
 SO Lietuvos Fizikos Rinkiny (1992), 32(5), 657-63  
 CODEN: LFRMA7; ISSN: 0024-2969  
 DT Journal  
 LA Russian  
 CC 73-2 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 41

AB The dynamics of absorption recovery in polymethine dyes 3955, 3273y, 3274y, 3890y and 4363y soln. in dichlorethane has been investigated. The expts. have been performed by a pump-probe technique with subpicosecond time resoln. using mode-locked Nd: glass \*\*\*laser\*\*\*. The exptl. data were in a good agreement with computer simulation results based on three-level saturable absorbed mol. model, accounting the resonant absorption from excited level S1. The bleaching relaxation consts. and resonant S0 .fwdarw. S1 and S1 .fwdarw. S1 transition absorption cross-section ratios have been measured.

ST \*\*\*optical\*\*\* absorption polymethine dye  
 IT Dyes, cyanine  
 (dynamics of absorption recovery in)  
 IT \*\*\*Optical\*\*\* absorption  
 (dynamics of recovery in polymethine dyes)

IT 100012-45-1 125127-62-0 147522-77-8 \*\*\*148077-02-5\*\*\*  
 155948-58-6, 3890U  
 RL: PRP (Properties)  
 (dynamics of absorption recovery in)

L12 ANSWER 63 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1993:149441 CAPLUS  
 DN 118:149441  
 ED Entered STN: 13 Apr 1993  
 TI Cyclazines and their analogs. 2. Diformyl-substituted thiazolopyrimidopyrimidines  
 AU Mikitenko, E. K.; Romanov, N. N.  
 CS Inst. Org. Khim., Kiev, 252660, Ukraine  
 SO Khimiya Geterotsiklicheskih Soedinenii (1992), (5), 698-703  
 CODEN: KGSSAQ; ISSN: 0132-6244  
 DT Journal  
 LA Russian  
 CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)  
 Section cross-reference(s): 28

GI

AB The title compds. [I; R = CF<sub>3</sub>, Ph, C<sub>6</sub>H<sub>4</sub>OMe, CH(CHO)<sub>2</sub>] were prepd. by treating 6-R-4-methylpyrimidine-2-thione with XCH<sub>2</sub>CN (X = Cl, Br) to give the corresponding 6-R-4-methyl-2-(cyanomethylthio)pyrimidines, which were then treated with DMF in the presence of POCl<sub>3</sub>. The I were treated with nucleophilic agents (2-methyl-3-ethylbenzothiazolium or 1,2,3,3-tetramethyl-3H-indolium salts) to give deeply colored polymethine dyes.

ST thiazolopyrimidopyrimidine diformyl synthesis; pyrimidopyrimidine thiazolo diformyl; polymethine dye thiazolopyrimidopyrimidine based; cyanine dye thiazolopyrimidopyrimidine based; benzothiazolium thiazolopyrimidopyrimidine polymethine dye; indolium thiazolopyrimidopyrimidine polymethine dye

IT Dyes, cyanine  
(cationic, polymethine, thiazolopyrimidopyrimidine derivs., prepn. and \*\*\*optical\*\*\* properties of)

IT 68-12-2, Dimethylformamide, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(Vilsmeier reaction of, with (cyanomethyl)thiopyrimidines)

IT 103483-16-5P 116248-36-3P 146547-33-3P 146547-34-4P 146615-59-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and Vilsmeier reaction of, with DMF)

IT \*\*\*146547-40-2P\*\*\* \*\*\*146547-42-4P\*\*\* \*\*\*146547-44-6P\*\*\*  
\*\*\*146615-62-5P\*\*\*  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and \*\*\*optical\*\*\* properties of, as polymethine dye)

IT 146547-36-6P 146547-37-7P 146547-38-8P 146615-60-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, in polymethine dye synthesis)

IT 146547-35-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, in polymethine dye synthesis)

IT 22325-27-5, 4,6-Dimethyl-pyrimidine-2-thione 27955-44-8 35071-17-1, 4-Methyl-pyrimidine-2-thione 78018-17-4 146615-58-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with chloro- or bromoacetonitrile)

IT 13330-41-1, 1,2,3,3-Tetramethyl-3H-indolium perchlorate 14933-76-7  
50378-73-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with diformylthiazolopyrimidopyrimidines, in polymethine dye synthesis)

IT 107-14-2, Chloroacetonitrile 590-17-0, Bromoacetonitrile  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with substituted methylpyrimidinethiones)

L12 ANSWER 64 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1993:136318 CAPLUS  
DN 118:136318  
ED Entered STN: 30 Mar 1993  
TI Preparation of photochromic trans-(3-chromenylethenyl)indolenium salts  
IN Nakasumi, Hiroyuki; Kitao, Teijiro  
PA Mitsubishi Kasei Corp., Japan  
SO Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C07D405-06  
ICS C07D409-06; C07D417-06  
ICA C09K009-02  
CC 74-9 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 27, 28

FAN.CNT 1

|       | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|-------|---------------|------|----------|-----------------|----------|
| PI    | JP 04279580   | A2   | 19921005 | JP 1991-40235   | 19910306 |
| PRAI  | JP 1991-40235 |      | 19910306 |                 |          |
| CLASS |               |      |          |                 |          |

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|-------------|-------|--|
| JP 04279580 | ICM   | C07D405-06   |
|             | ICS   | C07D409-06; C07D417-06   |
|             | ICA   | C09K009-02   |
|             | IPCI  | C07D0405-06 [ICM,5]; C07D0409-06 [ICS,5]; C07D0417-06 [ICS,5]; C09K0009-02 [ICA,5] |

GI

/ Structure 28 in file .gra /

AB The title photochromic compds. I [R1 = (alkoxy)alkyl; R2-3 = H, alkyl, alkoxy, NO2, halo; R4 = H, p-(N,N-dialkylamino)styryl, 2-(N,N-dialkylamino)ethenyl; X = monovalent anion; Y = CR5R6, S; R5-6 = alkyl; Z = O, S] are claimed. I are useful for recording materials, memory materials, light-controlling glass, \*\*\*optical\*\*\* filteres, and masking materials.

ST chromenylethenylindolenium prepn photochromic material

IT Photochromic substances

IT ((oxochromenylethenyl)indolenium salts and their sulfur analogs)

IT 13330-41-1, 1,2,3,3-Tetramethylindolenium perchlorate

RL: USES (Uses)

(condensation of, with formylthiochromone, photochromic vinyl compd. from)

IT 70940-99-7, 3-Formylthiochromone

RL: USES (Uses)

(condensation of, with methylindolenium perchlorate, photochromic vinyl compds. from)

IT \*\*\*145853-11-8P\*\*\*                      \*\*\*145853-12-9P\*\*\*                      \*\*\*145853-14-1P\*\*\*

          \*\*\*145853-16-3P\*\*\*                      \*\*\*145853-17-4P\*\*\*                      \*\*\*145853-19-6P\*\*\*

RL: PREP (Preparation)

(prepn. of, as photochromic substance)

L12 ANSWER 65 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1993:35449 CAPLUS

DN 118:35449

ED Entered STN: 03 Feb 1993

TI Reagent and method for analyzing cells in urine

IN Nakamoto, Hiroyuki; Fujiwara, Chiyose

PA Toa Medical Electronics Co., Ltd., Japan

SO Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM G01N033-50

ICS C12Q001-68

CC 9-5 (Biochemical Methods)

FAN.CNT 1

|      | PATENT NO.            | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-----------------------|------|----------|-----------------|----------|
| PI   | EP 513762             | A1   | 19921119 | EP 1992-108078  | 19920513 |
|      | EP 513762             | B1   | 19960904 |                 |          |
|      | R: DE, FR, GB, IT, NL |      |          |                 |          |
|      | JP 04337459           | A2   | 19921125 | JP 1991-109267  | 19910514 |
|      | JP 3070968            | B2   | 20000731 |                 |          |
|      | CA 2068471            | AA   | 19921115 | CA 1992-2068471 | 19920512 |
|      | CA 2068471            | C    | 20031007 |                 |          |
|      | AU 9216226            | A1   | 19921119 | AU 1992-16226   | 19920513 |
|      | US 5693484            | A    | 19971202 | US 1994-329662  | 19941026 |
| PRAI | JP 1991-109267        | A    | 19910514 |                 |          |
|      | US 1992-881514        | B1   | 19920512 |                 |          |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES       |
|------------|-------|--|
| EP 513762  | ICM   | G01N033-50                               |
|            | ICS   | C12Q001-68                               |
|            | IPCI  | G01N0033-50 [ICM,5]; C12Q0001-68 [ICS,5] |
|            | ECLA  | C12Q001/68; G01N033/50D6; G01N033/569D   |

JP 04337459 IPCI G01N0033-48 [ICM,5]; A61B0005-20 [ICS,5]; G01N0021-78 [ICS,5]; G01N0021-82 [ICS,5]; G01N0033-493 [ICS,5]

CA 2068471 IPCI G01N0033-52 [ICM,5]; G01N0021-64 [ICS,5]; G01N0021-53 [ICS,5]; G01N0033-493 [ICS,5]

AU 9216226 IPCI G01N0021-64 [ICM,5]; G01N0021-47 [ICS,5]; G01N0033-52 [ICS,5]

US 5693484 IPCI G01N0015-10 [ICM,6]; G01N0021-47 [ICS,6]; G01N0021-64 [ICS,6]

NCL 435/039.000; 209/581.000; 209/582.000; 250/461.200; 356/073.000; 356/336.000; 356/338.000; 356/417.000; 435/007.240; 435/007.250; 435/029.000; 435/038.000; 436/052.000; 436/063.000; 436/066.000; 436/172.000; 436/800.000

ECLA G01N033/50D6

AB A reagent and a method for analyzing cells in urine are provided. The reagent comprises soln(s). contg. a fluorescent dye, an osmolarity-compensating agent, and a buffer. The method involves dilg. a urine sample and staining cells therein with the reagent, irradiating the cells with light in the violet or blue wavelength region by using a flow cytometer, and measuring the forward- or side-scattered light and fluorescence from the cells. Leukocytes and epithelial cells could be classified in urine using a yellow-brown reagent (pH 8.5) contg. neutral red, Na propionate, and Tris and Tricine buffers. An Ar ion \*\*\*laser\*\*\* emitting excitation light of 488 nm was employed as the light source; fluorescence of .gtoreq.520 nm was detected.

ST urine cell fluorescence dye reagent

IT Osmotic pressure  
(agent compensating for, in fluorescent dye reagent for analyzing cells in urine)

IT Animal cell  
Bacteria  
Erythrocyte  
Leukocyte  
(anal. of, in urine, fluorescent dye reagent for)

IT Blood  
(casts, in urine, fluorescent dye reagent for study of)

IT Epithelium  
(cells of, anal. of, in urine, fluorescent dye reagent for)

IT Urine  
(cells of, differential staining of, fluorescent dye reagent for)

IT Carbonates, uses  
Phosphates, uses  
RL: USES (Uses)  
(fluorescent dye reagent contg., as osmolarity-compensating agent for analyzing cells in urine)

IT Buffer substances and systems  
(in fluorescent dye reagent, for analyzing cells in urine)

IT Cytometry  
(flow, in cell anal. in urine with fluorescent dye reagent)

IT Dyes  
(fluorescent, reagent contg., for analyzing cells in urine)

IT Cytometry  
(fluorometric, in urine, fluorescent dye reagent for)

IT 57-44-3D, Barbitol, salts 64-19-7D, Acetic acid, salts 77-86-1, Tris 77-92-9D, Citric acid, salts 88-99-3D, Phthalic acid, salts 107-35-7, Taurine 110-16-7D, Maleic acid, salts 110-99-6, Diglycolic acid 556-50-3, Glycylglycine 1118-68-9, Dimethylglycine 5704-04-1, Tricine 7664-38-2D, Phosphoric acid, salts 10043-35-3D, Boric acid, salts  
RL: ANST (Analytical study)  
(as buffer, in fluorescent dye reagent for analyzing cells in urine)

IT 137-40-6, Sodium propionate 7447-40-7, Potassium chloride, uses 7447-41-8, Lithium chloride, uses 7647-14-5, Sodium chloride, uses 12125-02-9, Ammonium chloride, uses  
RL: ANST (Analytical study)  
(fluorescent dye reagent contg., as osmolarity-compensating agent, for analyzing cells in urine)

IT 65-61-2, Acridine Orange 81-88-9, Rhodamine B 553-24-2, Neutral Red 989-38-8, Rhodamine 6G 1239-45-8, Ethidium bromide 1745-32-0 2381-85-3, Cresyl Fast Violet 2465-27-2, Auramine O 2465-29-4, Acridine Red 3B 3028-97-5 4208-80-4, Basic Yellow 11 \*\*\*4657-00-5\*\*\*, Astrazon Orange R 6359-45-1, Basic Violet 16 6441-82-3, Astrazon Red 6B 12627-64-4, Rhodamine S 15391-59-0, Darrow Red 16195-13-4

17372-87-1, Eosin Y 18403-49-1 18472-87-2, Cyanosine 25535-16-4,  
 Propidium iodide 32835-24-8 62669-66-3, Rhodamine 19 perchlorate  
 62669-70-9, Rhodamine 123 84195-77-7 103405-57-8 144746-54-3,  
 Acronol Phloxine FFS  
 RL: ANST (Analytical study)  
 (reagent contg., for analyzing cells in urine)

L12 ANSWER 66 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1992:581112 CAPLUS  
 DN 117:181112  
 ED Entered STN: 01 Nov 1992  
 TI Passively mode-locked dye \*\*\*laser\*\*\* with spatial dispersions in the  
 gain medium  
 AU Mikhailov, N.  
 CS Fac. Phys., Sofia Univ., Sofia, 1126, Bulg.  
 SO Proceedings of the International Conference on Lasers (1992), Volume Date  
 1991, 14th, 923-5  
 CODEN: PICLDV; ISSN: 0190-4132  
 DT Journal  
 LA English  
 CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 AB The advantages of mode-locking with spatial dispersion in the gain medium  
 are demonstrated. The technique was applied to a passively mode-locked  
 dye \*\*\*laser\*\*\*. Under the same exptl. conditions pulse detection  
 improved by an order of magnitude is achieved as compared to the std. case  
 of no dispersion. Pulses shorter than 100 fs were generated in a simple  
 linear resonator at pump powers far above the threshold. Wavelength  
 tuning was obtained over a range of about 10 nm.  
 ST dye \*\*\*laser\*\*\* spatial dispersion gain medium; passively mode locked  
 dye \*\*\*laser\*\*\*  
 IT Dyes  
 ( \*\*\*lasers\*\*\* from, passively modelocked, with gain medium spatial  
 dispersion)  
 IT \*\*\*Lasers\*\*\*  
 (dye, passively mode-locked, with spatial dispersion in gain medium)  
 IT 989-38-8, Rhodamine 6G  
 RL: DEV (Device component use); USES (Uses)  
 ( \*\*\*laser\*\*\*, passively mode-locked, with spatial dispersion in  
 gain medium)  
 IT \*\*\*129995-17-1\*\*\*, TCETI tetrafluoroborate  
 RL: USES (Uses)  
 (saturable absorber, in dye \*\*\*laser\*\*\* )

L12 ANSWER 67 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1992:244850 CAPLUS  
 DN 116:244850  
 ED Entered STN: 13 Jun 1992  
 TI Organic third-order nonlinear \*\*\*optical\*\*\* materials  
 IN Ikeda, Hideji; Sakai, Toshio  
 PA Idemitsu Kosan Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G02F001-35  
 ICA C07D413-06; C07D417-06; C07D421-06  
 CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 FAN.CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE     |
|--------------------|------|----------|-----------------|----------|
| JP 03279927        | A2   | 19911211 | JP 1990-78835   | 19900329 |
| PRAI JP 1990-78835 |      | 19900329 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|-------------|-------|--|
| JP 03279927 | ICM   | G02F001-35   |
|             | ICA   | C07D413-06; C07D417-06; C07D421-06   |
|             | IPCI  | G02F0001-35 [ICM,5]; C07D0413-06 [ICA,5]; C07D0417-06 [ICA,5]; C07D0421-06 [ICA,5] |

OS MARPAT 116:244850



/ Structure 29 in file .gra /

AB The material consists of I(X=O, S, Se, CH:CH, C(Me)<sub>2</sub>; Y=ClO<sub>4</sub>, Cl<sup>-</sup>, Br<sup>-</sup>, I<sup>-</sup>; R=C1-3 alkyl; m=1-4). The material has a large 3rd-order nonlinearity in visible 670-840 nm, and is suited for use in \*\*\*optical\*\*\* communications and optoelectronic devices.

ST org third order nonlinear \*\*\*optical\*\*\* material

IT \*\*\*Optical\*\*\* materials  
(third-order nonlinear fast-response org., in visible range)

IT \*\*\*80323-80-4\*\*\* 80323-82-6 100323-58-8 \*\*\*107013-37-6\*\*\*  
\*\*\*107013-39-8\*\*\* 107578-63-2 107661-51-8 107661-53-0  
141459-61-2 141459-65-6 141459-71-4

RL: USES (Uses)  
(third-order nonlinear visible-light \*\*\*optical\*\*\* material)

L12 ANSWER 68 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1992:216340 CAPLUS

DN 116:216340

ED Entered STN: 31 May 1992

TI Studies on the synthesis and absorption spectra of some mero- and hemiazadibocyanines

AU Koraiem, A. I. M.; El-Maghraby, M. A.; Fahmy, S. M.

CS Chem. Dep., Aswan-Fac. Sci., Aswan, Egypt

SO Egyptian Journal of Chemistry (1990), Volume Date 1988, 31(5), 531-41  
CODEN: EGJCA3; ISSN: 0367-0422

DT Journal

LA English

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

AB Acyclic and cyclic merocyanine dyes and hemiazadibocyanine bisethiodides incorporating 1-phenyl-5-oxo-2-pyrazoline groups were prepd. Other hemiazadibocyanine bisethiodides with pyrazolo[3,4-d]pyrazole rings were also obtained. Structures were confirmed spectroscopically.

ST meroazadibocyanine pyrazolinone; hemiazadibocyanine pyrazolopyrazole; merocyanine dye cyclic acyclic

IT Dyes, cyanine  
(azadibocyanines, prepn. and spectra of)

IT Dyes, cyanine  
(hemi-, azadibocyanines, prepn. and spectra of)

IT 302-01-2, Hydrazine, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(cyclocondensation of, with hemiazadibocyanine bisethiodides)

IT 141265-36-3P 141265-37-4P 141265-38-5P 141265-39-6P 141265-40-9P  
141265-41-0P 141265-42-1P 141265-43-2P 141265-44-3P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and absorption spectra of)

IT 141265-65-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and condensation with quaternized heterocyclic compds.)

IT 141265-48-7P 141265-49-8P 141265-50-1P 141265-51-2P  
\*\*\*141265-52-3P\*\*\* 141265-53-4P 141265-54-5P \*\*\*141265-55-6P\*\*\*  
\*\*\*141280-13-9P\*\*\*  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and cyclocondensation with hydrazine)

IT 132268-44-1P 132268-45-2P 132268-46-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and derivatization of)

IT 141265-56-7P 141265-57-8P \*\*\*141265-58-9P\*\*\* 141265-59-0P  
141265-60-3P \*\*\*141265-61-4P\*\*\* 141265-62-5P 141265-63-6P  
\*\*\*141265-64-7P\*\*\*  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and \*\*\*optical\*\*\* spectra of)

IT 141265-45-4P 141265-46-5P 141265-47-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and reaction with quaternized heterocyclic compds.)

IT 75-03-6, Ethyl iodide  
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with pyrazolinones)  
IT 95-21-6, 2-Methylbenzoxazole 606-55-3, Quinaldine ethiodide  
19760-15-7, .alpha.-Picoline ethiodide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with pyrazolo merocyanines)  
IT 57-44-3, Diethyl barbituric acid 123-54-6, Acetylacetone, reactions  
141-97-9, Ethyl acetoacetate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with quaternized pyrazolinones)

L12 ANSWER 69 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1992:95224 CAPLUS  
DN 116:95224  
ED Entered STN: 06 Mar 1992  
TI Nonlinear \*\*\*optical\*\*\* cyanine dye material for \*\*\*laser\*\*\*  
wavelength conversion  
IN Okazaki, Masaki; Uchino, Nobuhiko; Matsuo, Yasushi; Okazaki, Yoji  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM G02F001-35  
ICS C09B023-00; C09B055-00  
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related  
Properties)

FAN.CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
-----  
PI JP 03100629 A2 19910425 JP 1989-239274 19890914  
PRAI JP 1989-239274 19890914

CLASS  
PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES  
-----  
JP 03100629 ICM G02F001-35  
ICS C09B023-00; C09B055-00  
IPCI G02F0001-35 [ICM,5]; C09B0023-00 [ICS,5]; C09B0055-00  
[ICS,5]

OS MARPAT 116:95224  
AB The title material consists of a cyanine dye terminated by a 3-pyrrolyl  
ring or a 3H-pyrrololium-3-ylidene ring, optionally substituted by an alkyl  
or aryl group.  
ST cyanine dye nonlinear \*\*\*optical\*\*\* material  
IT \*\*\*Optical\*\*\* materials  
(nonlinear, cyanine dye, for \*\*\*laser\*\*\* wavelength conversion)  
IT \*\*\*139090-53-2\*\*\* \*\*\*139090-54-3\*\*\* \*\*\*139090-55-4\*\*\*  
\*\*\*139090-56-5\*\*\* \*\*\*139090-57-6\*\*\* \*\*\*139113-24-9\*\*\*  
RL: USES (Uses)  
(nonlinear \*\*\*optical\*\*\* materials for \*\*\*lasers\*\*\* )

L12 ANSWER 70 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1992:31079 CAPLUS  
DN 116:31079  
ED Entered STN: 24 Jan 1992  
TI Kinetic study of the photodecoloration mechanism of an inversely  
photochromic class of compounds forming spiropyran analogs  
AU Kuehn, D.; Balli, H.; Steiner, U. E.  
CS Fak. Chem., Univ. Konstanz, Konstanz, W-7750, Germany  
SO Journal of Photochemistry and Photobiology, A: Chemistry (1991), 61(1),  
99-112  
CODEN: JPPCEJ; ISSN: 1010-6030  
DT Journal  
LA English  
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
AB The quantum yields and kinetics of the photodecoloration of certain  
inversely photochromic class of compds. are reported. These compds. react  
to give spiro compds. related to the indolinospiropyrans by replacement of  
the chromene part of the mol. by an imidazodihydroquinoline fragment.  
Stationary illumination and nanosecond time-resolved \*\*\*laser\*\*\* flash  
spectroscopy were used. In particular, the role of the ground state of  
the open-chain cis conformer as an intermediate in spiro-bond formation

(photodecoloration) and opening (thermocoloration) was quant. assessed.  
 ST photodecoloration kinetics photochromic spiropyran analog;  
 thermocoloration photochromic spiropyran deriv isomerization; photolysis  
 IT ring cleavage isomerization photochromism spiropyran  
 Ultraviolet and visible spectra  
 (in study of photodecoloration mechanism of photochromic compds.)  
 IT Photochromism  
 (kinetic study of photodecoloration mechanism in)  
 IT Photochromic substances  
 (kinetic study of photodecoloration mechanism of, formation of  
 spiropyran analogs in)  
 IT Photolysis  
 (of photochromic compds. forming spiropyran analogs, photodecoloration  
 mechanism study in)  
 IT Decolorization  
 (photochem., kinetic study of mechanism of, for photochromic compds.  
 forming spiropyran analogs)  
 IT Isomerization  
 Ring cleavage  
 (photochem., of photochromic compds. forming spiropyran analogs,  
 photodecoloration mechanism study in)  
 IT Photoimaging compositions and processes  
 (photochromic, spiropyran analogs, kinetic study of photodecoloration  
 mechanism in relation to)  
 IT \*\*\*138194-17-9P\*\*\* \*\*\*138194-18-0P\*\*\* \*\*\*138194-19-1P\*\*\*  
 \*\*\*138194-20-4P\*\*\* \*\*\*138194-21-5P\*\*\*  
 RL: PREP (Preparation)  
 (formation and photochromic transformations of, kinetic study of  
 photodecoloration mechanism in)  
 IT 126172-45-0 138194-12-4 138194-13-5 138194-14-6 138194-15-7  
 RL: USES (Uses)  
 (photochromism of, kinetic study of photodecoloration mechanism of)  
 IT \*\*\*138194-23-7\*\*\* \*\*\*138194-24-8\*\*\* \*\*\*138194-25-9\*\*\*  
 \*\*\*138194-26-0\*\*\* \*\*\*138213-52-2\*\*\*  
 RL: USES (Uses)  
 (transient in photochromic transformation reaction, kinetic study of  
 photodecoloration mechanism in relation to)

L12 ANSWER 71 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1991:502493 CAPLUS  
 DN 115:102493  
 ED Entered STN: 06 Sep 1991  
 TI Organic nonlinear \*\*\*optical\*\*\* material containing vinyl compound  
 IN Ikeda, Hideji; Sakai, Toshio  
 PA Idemitsu Kosan Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 IC ICM G02F001-35  
 ICS G02B006-12  
 ICA C07D403-06; C07D413-06; C07D417-06; C07D421-06  
 CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 Section cross-reference(s): 28

FAN.CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------------|------|----------|-----------------|----------|
| JP 03011324         | A2   | 19910118 | JP 1989-145203  | 19890609 |
| PRAI JP 1989-145203 |      | 19890609 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|-------------|-------|--|
| JP 03011324 | ICM   | G02F001-35   |
|             | ICS   | G02B006-12   |
|             | ICA   | C07D403-06; C07D413-06; C07D417-06; C07D421-06   |
|             | IPCI  | G02F0001-35 [ICM,5]; G02B0006-12 [ICS,5]; C07D0403-06 [ICA,5]; C07D0413-06 [ICA,5]; C07D0417-06 [ICA,5]; C07D0421-06 [ICA,5] |

OS MARPAT 115:102493

GI For diagram(s), see printed CA Issue.

AB The material contains vinyl compd. I [R1 = (CH2)t (t = 4-6),

CH2CH2OCH2CH2; R2 = Cl-3 alkyl; X = O, S, Se, CH:CH; X1 = o-phenylene, CH2CMe2, none; n = 1-4; m = 0,1; Z = Cl, I, Me(p-C6H4)SO3, CH3SO4, ClO4]. The material is used in \*\*\*optical\*\*\* devices, \*\*\*optical\*\*\* communication, and \*\*\*optical\*\*\* integrated circuits. A material contg. II gave high 3rd harmonic generation.

ST nonlinear \*\*\*optical\*\*\* vinyl compd  
IT \*\*\*Optical\*\*\* materials  
(nonlinear, contg. vinyl compds., with high third harmonic generation)  
IT 135583-35-6P 135583-36-7P \*\*\*135607-43-1P\*\*\*  
RL: PREP (Preparation)  
(prepn. of, org. nonlinear \*\*\*optical\*\*\* material contg., with high third harmonic generation)  
IT 5260-36-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with anil compds.)  
IT 110-91-8, Morpholine, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with benzoxazorium compds.)  
IT 622-15-1, Diphenylformamidine 6318-16-7 41819-47-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with methylbenzoxazorium iodide)

L12 ANSWER 72 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1991:481806 CAPLUS  
DN 115:81806  
ED Entered STN: 23 Aug 1991  
TI Organic nonlinear \*\*\*optical\*\*\* material for \*\*\*laser\*\*\* wavelength conversion  
IN Okazaki, Masaki; Uchino, Nobuhiko; Matsuo, Yasushi; Okazaki, Yoji  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM G02F001-35  
ICA C09B023-00  
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 03055527    | A2   | 19910311 | JP 1989-191625  | 19890725 |
| PRAI | JP 1989-191625 |      | 19890725 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES       |
|-------------|-------|--|
| JP 03055527 | ICM   | G02F001-35                               |
|             | ICA   | C09B023-00                               |
|             | IPCI  | G02F0001-35 [ICM,5]; C09B0023-00 [ICA,5] |

OS MARPAT 115:81806  
AB The title material is a compd. consisting of a 7-membered ring fused with a 5-membered ring, in which all constituent atoms have .pi.-electrons and .gtoreq.1 of them is not C.  
ST conjugated heterocyclic nonlinear \*\*\*optical\*\*\* material  
IT \*\*\*Optical\*\*\* materials  
(nonlinear, conjugated heterocyclic compds. as)  
IT 15852-41-2, 2(1H)-Cycloheptimidazolethione \*\*\*34329-85-6\*\*\*  
\*\*\*34329-88-9\*\*\* 108880-08-6  
RL: TEM (Technical or engineered material use); USES (Uses)  
(nonlinear \*\*\*optical\*\*\* material)

L12 ANSWER 73 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1990:580866 CAPLUS  
DN 113:180866  
ED Entered STN: 09 Nov 1990  
TI Two-wavelength operation of a femtosecond ring dye \*\*\*laser\*\*\*  
AU Mikhailov, N.; Khristov, I.; Tomov, I.  
CS Fac. Phys., Sofia Univ., Sofia, BG-1126, Bulg.  
SO Applied Physics B: Photophysics and Laser Chemistry (1990), B51(2), 171-6  
CODEN: APPCDL; ISSN: 0721-7269  
DT Journal  
LA English

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

AB Two-wavelength operation is reported of a colliding pulse mode-locked (CPM) ring dye \*\*\*laser\*\*\* employing Rhodamine 6G as gain medium and a new styryl dye as saturable absorber. Two trains of femtosecond pulses at different wavelengths are simultaneously generated under proper alignment of the \*\*\*laser\*\*\*. The secondary pulse train is attributed to the \*\*\*laser\*\*\* action of the absorber dye. Auto- and cross-correlation measurements are performed to det. the temporal characteristics of the \*\*\*laser\*\*\* in the double mode-locking regime.

ST femtosecond ring dye \*\*\*laser\*\*\*

IT Dyes

IT ( \*\*\*lasers\*\*\* from, two-wavelength operation of femtosecond ring)

IT \*\*\*Lasers\*\*\*

IT (dye, ring, two-wavelength operation of femtosecond)

IT \*\*\*129995-17-1\*\*\*, TCETI tetrafluoroborate

RL: PRP (Properties)

IT ( \*\*\*laser\*\*\* from dye with saturable absorber of, two-wavelength operation of femtosecond ring)

IT 989-38-8

RL: DEV (Device component use); USES (Uses)

IT ( \*\*\*lasers\*\*\*, two-wavelength operation of femtosecond ring)

L12 ANSWER 74 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1990:90598 CAPLUS

DN 112:90598

ED Entered STN: 03 Mar 1990

TI Conditions for precipitation and photometric determination of lead by using iodide ions and cyanine dyes

AU Kish, P. P.; Bazel, Ya. R.

CS Uzhgorod State Univ., Uzhgorod, USSR

SO Zhurnal Analiticheskoi Khimii (1989), 44(2), 313-19

CODEN: ZAKHA8; ISSN: 0044-4502

DT Journal

LA Russian

CC 79-6 (Inorganic Analytical Chemistry)

Section cross-reference(s): 41

AB A spectrophotometric method was developed for detn. of Pb in aq. solns. that is based on its interaction with I- and pinaverdol (LHI) to give (LH)<sub>2</sub>[PbI<sub>4</sub>]. The \*\*\*optical\*\*\* d. of an Me<sub>2</sub>CO soln. of the ppt. is measured at the wavelength 565 nm. Beer's law validity is preserved over the concn. range 0.2-4 .mu.g mL<sup>-1</sup> Pb. For solns. of NaOAc and Al(OAc)<sub>3</sub>, the method gave results with relative std. deviation 0.036-0.074 (n = 6, P = 0.95). Optimal conditions for complexation and pptn. of Pb in the presence of I- ions were detd. for 15 different cyanine dyes.

ST lead detn pptn spectrophotometry; visible spectra cyanine dye iodoplumbate; iodide complexation lead detn pptn spectrophotometry; pinaverdol lead detn pptn spectrophotometry; cyanine dye lead detn pptn spectrophotometry

IT Ion pairs

(cyanine dyes with tetraiodoplumbate, visible spectra of)

IT Dyes, cyanine

(ion pair formation of, with tetraiodoplumbate, structure-reactivity correlation in)

IT Reactivity

(of cyanine dyes with tetraiodoplumbate, lead detn. in relation to)

IT 7439-92-1, Lead, analysis

RL: ANT (Analyte); ANST (Analytical study)

(detn. of, by pptn. and spectrophotometry with iodide and cyanine dyes)

IT 2578-40-7, Pinaverdol 20461-54-5, Iodide, uses and miscellaneous

RL: ANST (Analytical study)

(in detn. of lead by pptn. and spectrophotometry)

IT 124333-66-0 \*\*\*124333-67-1\*\*\* 124521-92-2 124521-96-6

124522-00-5 125202-62-2 \*\*\*125232-87-3\*\*\* \*\*\*125232-89-5\*\*\*

125232-90-8 125232-91-9 125269-03-6

RL: PRP (Properties)

(visible spectrum of)

L12 ANSWER 75 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1989:144697 CAPLUS

DN 110:144697

ED Entered STN: 15 Apr 1989

TI Electron phototransfer between aromatic amines and a cyanine dye in solid  
 poly(vinyl chloride) in pulse \*\*\*laser\*\*\* photolysis  
 AU Tkachev, V. A.; Maltsev, E. I.; Vannikov, A. V.  
 CS Inst. Elektrokhim. im. Frumkina, Moscow, USSR  
 SO Khimicheskaya Fizika (1989), 8(1), 42-8  
 CODEN: KHFID9; ISSN: 0207-401X  
 DT Journal  
 LA Russian  
 CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 GI

/ Structure 30 in file .gra /

AB \*\*\*Optical\*\*\* absorption spectra and decay kinetics of primary excited  
 and ionic products were obtained in \*\*\*laser\*\*\* irradiated (530 nm)  
 system cyanine dye I-arom. amine (diphenylamine, diphenylbenzylamine,  
 triphenylamine) in dichloroethane soln. and in poly(vinyl chloride) matrix  
 at 23.degree.. Electron transfer in photolysis of these system was  
 realized through the intermediate step of triplet exciplex with subsequent  
 sepn. into ions. Absorption max. of diphenylamine-I and  
 diphenylbenzylamine-I exciplexes were at 710 .+- .10 and 700 .+- .10 nm  
 resp.  
 ST cyanine dye arom amine photolysis; triplet exciplex dye arom amine;  
 electron transfer dye arom amine  
 IT Photolysis  
 ( \*\*\*laser\*\*\* -induced, pulse, of cyanine dye-arom. amine systems in  
 poly(vinyl chloride) film, formation of triplet exciplexes in)  
 IT Electron exchange  
 (photochem., in arom. amine-cyanine dye systems, formation of triplet  
 exciplexes in)  
 IT Exciplexes  
 (triplet, in photolysis of cyanine dye-arom. amine systems in  
 poly(vinyl chloride) film)  
 IT 35653-35-1P, Diphenylamine cation radical  
 RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, in photolysis of cyanine dye-diphenylamine system in  
 polymer matrix, triplet exciplex formation in)  
 IT 82970-83-0P, Diphenylbenzylamine cation radical  
 RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, in photolysis of cyanine dye-diphenylbenzylamine system  
 in polymer film, formation of triplet exciplexes in)  
 IT 17221-73-7P, Triphenylamine cation radical  
 RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, in photolysis of cyanine dye-triphenylamine system,  
 triplet exciplex formation in)  
 IT \*\*\*119775-12-1\*\*\*  
 RL: USES (Uses)  
 (photoinduced electron transfer between arom. amines and, in solid  
 polymer matrix, in \*\*\*laser\*\*\* photolysis)  
 IT 122-39-4, Diphenylamine, properties 603-34-9, Triphenylamine 606-87-1,  
 Diphenylbenzylamine  
 RL: PRP (Properties)  
 (photoinduced electron transfer between cyanine dye and, in polymeric  
 matrix, triplex exciplex formation in)

L12 ANSWER 76 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1989:125299 CAPLUS  
 DN 110:125299  
 ED Entered STN: 03 Apr 1989  
 TI Photosensitive compositions containing methine dyes  
 IN Kato, Eiichi; Ishii, Kazuo  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 18 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G03G005-06

ICS B41M005-26  
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 63135943    | A2   | 19880608 | JP 1986-280793  | 19861127 |
| PRAI | JP 1986-280793 |      | 19861127 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES       |
|-------------|-------|--|
| JP 63135943 | ICM   | G03G005-06                               |
|             | ICS   | B41M005-26                               |
|             | IPCI  | G03G0005-06 [ICM,4]; B41M0005-26 [ICS,4] |

GI

/ Structure 31 in file .gra /

AB The title compns. contain .gtoreq.1 compd. I [Z1, Z2 = O, S, Se, Te, NR1;  
R1 = hydrocarbon moiety; Q1 = (un)substituted, benzopyryliumyl,  
naphthopyryliumyl, thiopyryliumyl, benzothiopyryliumyl,  
naphthothiopyryliumyl, seleniniumyl, benzoseleniniumyl,  
naphthoseleniniumyl, telluriniumyl, benzotelluriniumyl,  
naphthotelluriniumyl, moiety necessary to form 5- or 6-membered N-contg.  
ring; Y1-Y4 = H, aliph., arom.; Q2 = pyryl, benzopyryl, naphthopyryl,  
thiopyryl, benzothiopyryl, naphthothiopyryl, seleninyl, benzoseleninyl,  
naphthoseleninyl, tellurinyl, benzotellurinyl, benzotellurinyl,  
naphthotellurinyl, moiety necessary to form 5- or 6-membered N-contg.  
ring; L = (un) substituted methine; X = O, S, Se; m, n = 0, 1; p, q = 0,  
1; p .noteq. q = 1; A- = anion; r = 1, 2; r = 1 for formation of intramol.  
salt]. This material shows high sensitivity at .gtoreq.750 nm, and is  
useful for an electrophotog. photosensitive material and an

ST \*\*\*optical\*\*\* recording medium.  
ST \*\*\*optical\*\*\* recording medium methine dye; electrophotog  
photoreceptor methine dye  
IT Electrophotographic sensitizers  
(methine dyes as, for high sensitivity in near-IR region)  
IT Recording materials  
( \*\*\*optical\*\*\* , methine dyes for, with high sensitivity in near-IR  
region)

IT 119227-03-1 119227-05-3 119227-07-5 119227-09-7 119227-11-1  
119227-13-3 119227-15-5 119227-17-7 119227-18-8 119227-19-9  
119227-20-2 119227-21-3 119227-23-5 119227-25-7 119227-27-9  
119227-28-0 119227-30-4 \*\*\*119227-32-6\*\*\* \*\*\*119227-34-8\*\*\*  
\*\*\*119227-35-9\*\*\* \*\*\*119227-37-1\*\*\* 119227-39-3  
\*\*\*119227-41-7\*\*\* 119227-43-9 119227-44-0 119227-46-2  
119256-28-9 119256-30-3 119256-32-5 119256-34-7 119256-36-9  
119256-38-1 119256-39-2

RL: USES (Uses)  
(photosensitive material contg., for electrophotog. photoreceptor and  
\*\*\*optical\*\*\* recording medium)

L12 ANSWER 77 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:601583 CAPLUS

DN 109:201583

ED Entered STN: 25 Nov 1988

TI \*\*\*Optical\*\*\* \*\*\*information\*\*\* recording medium containing  
indocarbocyanine dye

IN Kanno, Toshiyuki; Watanabe, Hitoshi

PA Olympus Optical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B41M005-26

ICS G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1

|  | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------------|------|------|-----------------|------|
|--|------------|------|------|-----------------|------|

|      |               |    |          |               |          |
|------|---------------|----|----------|---------------|----------|
| PI   | JP 62207686   | A2 | 19870912 | JP 1986-49915 | 19860307 |
|      | JP 07029496   | B4 | 19950405 |               |          |
| PRAI | JP 1986-49915 |    | 19860307 |               |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES       |
|-------------|-------|--|
| JP 62207686 | ICM   | B41M005-26                               |
|             | ICS   | G11B007-24                               |
|             | IPCI  | B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4] |
|             | ECLA  | B41M005/26                               |

GI For diagram(s), see printed CA Issue.

AB An \*\*\*optical\*\*\* recording medium has a recording layer contg. an indocarbocyanine dye I [R1 = C1-6 alkyl, aralkyl, Ph; R2 = H, halo, C1-6 alkyl, NPh2, Q; R3 = C1-6 alkyl; X- = ClO4-, BF4-, iodo, Cl-, Br-, p-tosyl; A = Q1-4; Y = -R4OH, -R4COH, -R4CO2H, -CHR4Ph, Q5; R4 = C1-20 alkylene; n = 0, 1; R5 = C1-18 alkyl, Ph; G = O, S; Z = benzene or naphthalene ring]. The medium is useful for semiconductor \*\*\*laser\*\*\* recording and read out systems and shows high sensitivity and high stabilities against ambient light and moisture. Thus, II was dissolved in MeCOEt and spin-coated on a glass substrate to form a 70 nm-recording layer, which was irradiated with a semiconductor \*\*\*laser\*\*\* beam (830 nm, 7 mW) at a recording frequency of 1 MHz and a scanning rate of 9 m/s to record \*\*\*information\*\*\*. The recorded \*\*\*information\*\*\* was read out by detecting a reflection index change with a low-powered \*\*\*laser\*\*\* beam (0.4 mW) to show high recording sensitivity and high carrier-to-noise (C/N) ratio.

ST indocarbocyanine dye \*\*\*optical\*\*\* recording layer; semiconductor \*\*\*laser\*\*\* recording \*\*\*optical\*\*\* disk; cyanine dye \*\*\*optical\*\*\* recording layer

IT Recording materials  
( \*\*\*optical\*\*\* , \*\*\*laser\*\*\* -sensitive, indocarbocyanine dyes for)

IT 23178-67-8 106152-89-0, IRG-003 110897-97-7 \*\*\*117213-05-5\*\*\*  
\*\*\*117213-07-7\*\*\* \*\*\*117213-09-9\*\*\* \*\*\*117213-11-3\*\*\*  
\*\*\*117213-13-5\*\*\* \*\*\*117213-15-7\*\*\* 117213-16-8

RL: USES (Uses)  
( \*\*\*laser\*\*\* recording medium contg.)

L12 ANSWER 78 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:601582 CAPLUS

DN 109:201582

ED Entered STN: 25 Nov 1988

TI \*\*\*Optical\*\*\* \*\*\*information\*\*\* recording medium containing indocarbocyanine dye

IN Kanno, Toshiyuki; Watanabe, Hitoshi

PA Olympus Optical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.  
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B41M005-26  
ICS G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE     |
|--------------------|------|----------|-----------------|----------|
| JP 62207684        | A2   | 19870912 | JP 1986-49913   | 19860307 |
| PRAI JP 1986-49913 |      | 19860307 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES       |
|-------------|-------|--|
| JP 62207684 | ICM   | B41M005-26                               |
|             | ICS   | G11B007-24                               |
|             | IPCI  | B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4] |

GI



AB An \*\*\*optical\*\*\* recording medium has a recording layer contg. an indocarbocyanine dye I [R1 = C1-6 alkyl, aralkyl, Ph; R2 = C1-18 alkyl, aralkyl, aryl, Ph; R3 = H, halo, C1-6 alkyl, NPh2, Q; R4 = C1-6 alkyl; A = Q1-4; X = ClO4, BF4, iodo, Cl, Br, p-toluenesulfonic acid; Y = C1-18 alkyl, -R5OH, -R5CO2H, -R5OR6, -R5COR6, R5CO2R6, -R5C6H4R6, O5R5 = C1-20 alkylene; R6 = H, C1-18 alkyl, Ph; n = 0, 1; m = 1, 2; z = O, S]. The medium is useful for semiconductor \*\*\*laser\*\*\* recording and read out systems and shows high sensitivity and high stabilities against ambient light and moisture. Thus, II [R1 = R2 = Me; Y = CH2CH2OMe; A = Q1; R3 = H; m = 1 (at 5-position); X- = ClO4-] was dissolved in MeCOEt and spin-coated on a glass substrate to form a 70 nm-recording layer which was irradiated with a semiconductor \*\*\*laser\*\*\* beam (830 nm, 7 mW) at a recording frequency of 1 MHz and a scanning rate of 9 m/s to record \*\*\*information\*\*\*. The recorded \*\*\*information\*\*\* was read out by detecting a reflection index change with a low-powered \*\*\*laser\*\*\* beam (0.4 mW) to show high recording sensitivity and high carrier-to-noise (C/N) ratio.

ST indocarbocyanine dye \*\*\*optical\*\*\* recording layer; semiconductor \*\*\*laser\*\*\* recording \*\*\*optical\*\*\* \*\*\*information\*\*\*; cyanine dye \*\*\*optical\*\*\* recording layer

IT Recording materials  
( \*\*\*optical\*\*\* , \*\*\*laser\*\*\* -sensitive, indocarbocyanine dyes for)

IT 23178-67-8 106152-89-0, IRG-003 110897-97-7 \*\*\*117212-96-1\*\*\*  
\*\*\*117212-97-2\*\*\* \*\*\*117212-99-4\*\*\* 117213-01-1  
\*\*\*117213-03-3\*\*\* \*\*\*117233-28-0\*\*\*

RL: USES (Uses)  
( \*\*\*laser\*\*\* recording medium contg.)

L12 ANSWER 79 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:430232 CAPLUS

DN 109:30232

ED Entered STN: 22 Jul 1988

TI Organic dye-containing recording material for \*\*\*optical\*\*\* data

IN Kanno, Toshiyuki; Watanabe, Hitoshi; Hamanishi, Kohei

PA Olympus Optical Co., Ltd., Japan

SO Ger. Offen., 39 pp.  
CODEN: GWXXBX

DT Patent

LA German

IC ICM G11B007-24  
ICS C09B023-08

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 41

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | DE 3704601     | A1   | 19870820 | DE 1987-3704601 | 19870213 |
|      | JP 62187085    | A2   | 19870815 | JP 1986-29328   | 19860213 |
|      | JP 07029490    | B4   | 19950405 |                 |          |
|      | JP 62187090    | A2   | 19870815 | JP 1986-30151   | 19860214 |
|      | JP 07029492    | B4   | 19950405 |                 |          |
|      | JP 62193880    | A2   | 19870826 | JP 1986-34716   | 19860219 |
|      | JP 62193888    | A2   | 19870826 | JP 1986-35491   | 19860220 |
|      | JP 62261485    | A2   | 19871113 | JP 1986-105290  | 19860508 |
|      | US 4908294     | A    | 19900313 | US 1987-11896   | 19870206 |
| PRAI | JP 1986-29328  | A    | 19860213 |                 |          |
|      | JP 1986-30151  | A    | 19860214 |                 |          |
|      | JP 1986-34716  | A    | 19860219 |                 |          |
|      | JP 1986-35491  | A    | 19860220 |                 |          |
|      | JP 1986-105290 | A    | 19860508 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES       |
|-------------|-------|--|
| DE 3704601  | ICM   | G11B007-24                               |
|             | ICS   | C09B023-08                               |
|             | IPCI  | G11B0007-24 [ICM,4]; C09B0023-08 [ICS,4] |
| JP 62187085 | IPCI  | B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4] |
|             | ECLA  | G11B007/247                              |

JP 62187090 IPCI B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4]  
 ECLA G11B007/247  
 JP 62193880 IPCI B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4]  
 JP 62193888 IPCI B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4]  
 JP 62261485 IPCI B41M0005-26 [ICM,4]; C09B0023-10 [ICS,4]; G11B0007-24 [ICS,4]  
 US 4908294 IPCI G11B0007-24 [ICM,4]; G03C0001-72 [ICS,4]; G03C0005-16 [ICS,4]; B41M0005-26 [ICS,4]  
 NCL 430/270.210; 346/135.100; 430/945.000  
 GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB \*\*\*Optical\*\*\* recording materials, upon which \*\*\*information\*\*\* is written or read by using a semiconductor \*\*\*laser\*\*\*, are composed of a support and a recording layer contg. an org. dye of the formula I (R = C1-6 alkyl, aralkyl, Ph; R1 C1-20 alkyl, Ph, Z2OH, Z2CO2H, Z2COH, and the like where Z2 = C1-20 alkylene; R2 = R1, Z3SO3Na, or the like where Z3 = C1-20 alkylene or aralkylene; Z = 1,2-naphthylene, 2,3-naphthylene, 3,4-naphthylene, substituted 1,2-phenylene; Z1 = II, III, IV, V, VI, or VII where R3 = H, halo, C1-6 alkyl, or Ph2N, and the like; X = an anion; n = 0 or 1). Thus, 2% MeEtCO soln. of VIII was coated on a glass support to give a recording material to show an absorption sensitivity of 2.9 mJ/point and signal-to-noise ratio of 56 dB.

ST \*\*\*optical\*\*\* recording material cyanine dye  
 IT Dyes, cyanine  
 ( \*\*\*optical\*\*\* recording materials contg.)  
 IT Recording materials  
 ( \*\*\*optical\*\*\*, contg. cyanine dyes)  
 IT 23178-67-8 33273-14-2 115024-32-3 115024-33-4 115024-34-5  
 115024-36-7 115024-38-9 115024-40-3 115024-42-5 115024-44-7  
 115024-46-9 115024-48-1 115024-50-5 115024-51-6 115024-52-7  
 115024-53-8 115024-55-0 \*\*\*115024-57-2\*\*\* \*\*\*115024-59-4\*\*\*  
 \*\*\*115024-61-8\*\*\* \*\*\*115024-63-0\*\*\* 115024-65-2 115024-67-4  
 115024-69-6 115039-88-8 115039-90-2 115039-92-4  
 RL: USES (Uses)  
 ( \*\*\*optical\*\*\* recording materials with recording layer contg.)

L12 ANSWER 80 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1988:196016 CAPLUS  
 DN 108:196016  
 ED Entered STN: 28 May 1988  
 TI \*\*\*Optical\*\*\* recording media using IR-sensitive methine dyes  
 IN Kanno, Toshiyuki; Watanabe, Hitoshi; Hamanishi, Kohei  
 PA Olympus Optical Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM B41M005-26  
 ICS G11B007-24  
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1  

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE     |
|--------------------|------|----------|-----------------|----------|
| JP 62193887        | A2   | 19870826 | JP 1986-35490   | 19860220 |
| PRAI JP 1986-35490 |      | 19860220 |                 |          |

CLASS  

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES       |
|-------------|-------|--|
| JP 62193887 | ICM   | B41M005-26                               |
|             | ICS   | G11B007-24                               |
|             | IPCI  | B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4] |

GI For diagram(s), see printed CA Issue.

AB The title media have an \*\*\*optical\*\*\* recording layer contg. the methine dye I [R1 = C1-6 alkyl, aralkyl, Ph; A = II, III, IV, V (R2 = H, halo, C1-6 alkyl, NPh2, VI (R3 = C1-6 alkyl); Z1 = O, S); Y = R4SO3-, (R4 = C1-20 alkylene, aralkylene); Y1 = R4SO3Na, R4SO3NHR53 (R5 = C1-18

alkyl); Z = benzene ring]. The media have a high reflectivity, high IR-sensitivity, and sufficient stabilities to light and moisture.

ST \*\*\*optical\*\*\* recording medium dye methine; recording medium  
 \*\*\*optical\*\*\* IR sensitivity

IT Recording materials  
 ( \*\*\*optical\*\*\* , contg. IR-sensitive methine dyes)

IT 106152-89-0, IRG003  
 RL: USES (Uses)  
 (IR absorber, \*\*\*optical\*\*\* recording layer contg.)

IT 23178-67-8 \*\*\*114365-48-9\*\*\* \*\*\*114365-50-3\*\*\* \*\*\*114365-52-5\*\*\*  
 \*\*\*114365-54-7\*\*\* 114365-55-8 \*\*\*114388-44-2\*\*\*  
 \*\*\*114388-45-3\*\*\*  
 RL: USES (Uses)  
 ( \*\*\*optical\*\*\* recording layer contg., with IR sensitivity)

IT 110897-97-7  
 RL: USES (Uses)  
 ( \*\*\*optical\*\*\* recording media with reflective-protective layer  
 from)

L12 ANSWER 81 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:177282 CAPLUS

DN 108:177282

ED Entered STN: 13 May 1988

TI \*\*\*Optical\*\*\* recording medium containing methine dyes

IN Kanno, Toshiyuki; Watanabe, Hitoshi

PA Olympus Optical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B41M005-26  
 ICS G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 62201288   | A2   | 19870904 | JP 1986-43747   | 19860228 |
|      | JP 07029494   | B4   | 19950405 |                 |          |
| PRAI | JP 1986-43747 |      | 19860228 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES       |
|-------------|-------|--|
| JP 62201288 | ICM   | B41M005-26                               |
|             | ICS   | G11B007-24                               |
|             | IPCI  | B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4] |
|             | ECLA  | G11B007/247; G11B007/248                 |

GI

/ Structure 33 in file .gra /

AB The title recording medium contains a dye of the formula I (A = II, III, IV, V, VI; R1 = C1-6 alkyl, allyl, aralkyl, Ph; R2 = C1-6 alkyl, H, halo, Ph, aralkyl, allyl, NPh2, VII; R3, R4 = H, or R3R4 in combination form condensed benzene ring; R5 = 4-ethoxycarbonylpiperidino, R2; R6 = C1-6 alkyl; X- = ClO4-, BF4-, I-, Cl-, Br-, p-MeC6H4SO3-; X1 = O, S; Y = C2-20 functional group having unsatd. bond; R = H, halo, C1-18 alkyl, allyl, NO2, OR7, CO2R7, OCF3, SCF3, ZOR7, ZCOR7, ZCO2R7, COR8, CH:CHPh, CH:CHCN, NHNR28, NHCOMe, N:NPh; R7 = H, C1-18 alkyl, R8 = C1-18 alkyl; Z = C1-20 alkylene; n = 0, 1, 2; m = 1-4; when m = 2, the 2 R groups may form a condensed benzene ring). The recording medium shows excellent sensitivity to semiconductor \*\*\*lasers\*\*\*.

ST \*\*\*optical\*\*\* recording medium methine dye; indole deriv dye  
 \*\*\*optical\*\*\* recording; semiconductor \*\*\*laser\*\*\* recording disk

IT Recording materials  
 ( \*\*\*optical\*\*\* , semiconductor \*\*\*laser\*\*\* -sensitive, indole  
 deriv. methine dyes as)

IT 23178-67-8 106152-89-0 110897-97-7 113941-03-0 113941-05-2

\*\*\*113941-07-4\*\*\* 113959-95-8 113959-97-0 \*\*\*113959-99-2\*\*\*  
RL: TEM (Technical or engineered material use); USES (Uses)  
( \*\*\*optical\*\*\* recording medium contg.)

L12 ANSWER 82 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1988:177270 CAPLUS  
DN 108:177270  
ED Entered STN: 13 May 1988  
TI \*\*\*Optical\*\*\* recording medium  
IN Maeda, Shuichi; Kurose, Yutaka; Ozawa, Tetsuo  
PA Mitsubishi Chemical Industries Co., Ltd., Japan  
SO Eur. Pat. Appl., 87 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
IC ICM G11B007-24  
ICA C09B023-14  
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 41

FAN.CNT 1

|      | PATENT NO.        | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-------------------|------|----------|-----------------|----------|
| PI   | EP 224261         | A2   | 19870603 | EP 1986-116476  | 19861127 |
|      | EP 224261         | A3   | 19881130 |                 |          |
|      | EP 224261         | B1   | 19920304 |                 |          |
|      | R: DE, FR, GB, NL |      |          |                 |          |
|      | JP 62124988       | A2   | 19870606 | JP 1985-265017  | 19851127 |
|      | JP 07029488       | B4   | 19950405 |                 |          |
|      | JP 62132681       | A2   | 19870615 | JP 1985-274234  | 19851205 |
|      | JP 08000808       | B4   | 19960110 |                 |          |
|      | JP 62216793       | A2   | 19870924 | JP 1986-59285   | 19860319 |
|      | US 4756987        | A    | 19880712 | US 1986-934694  | 19861125 |
| PRAI | JP 1985-265017    | A    | 19851127 |                 |          |
|      | JP 1985-274234    | A    | 19851205 |                 |          |
|      | JP 1986-59285     | A    | 19860319 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|-------------|-------|--|
| EP 224261   | ICM   | G11B007-24   |
|             | ICA   | C09B023-14   |
|             | IPCI  | G11B0007-24 [ICM,4]; C09B0023-14 [ICA,4]   |
| JP 62124988 | IPCI  | B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4]   |
|             | ECLA  | G11B007/247; G11B007/249   |
| JP 62132681 | IPCI  | B41M0005-26 [ICM,4]; C07D0209-90 [ICS,4]; C07D0401-06 [ICS,4]; C07D0405-06 [ICS,4]; C07D0409-06 [ICS,4]; C07D0413-06 [ICS,4]; C07D0417-06 [ICS,4]; C09B0057-06 [ICS,4]; G11B0007-24 [ICS,4]; C07D0401-06 [ICI,4]; C07D0209-00 [ICI,4]; C07D0213-00 [ICI,4]; C07D0401-06 [ICI,4]; C07D0209-00 [ICI,4]; C07D0215-00 [ICI,4]; C07D0405-06 [ICI,4]; C07D0209-00 [ICI,4]; C07D0307-00 [ICI,4]; C07D0409-06 [ICI,4]; C07D0209-00 [ICI,4] |
|             | ECLA  | C09B023/14H; G11B007/247; G11B007/249  |
| JP 62216793 | IPCI  | B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4]   |
| US 4756987  | IPCI  | G03C0001-72 [ICM,4]; G03C0005-16 [ICS,4]; G11B0007-24 [ICS,4]  |
|             | NCL   | 430/270.190; 346/135.100; 430/270.180; 430/945.000; 548/438.000  |

GI For diagram(s), see printed CA Issue.

AB An \*\*\*optical\*\*\* recording medium comprises a recording layer contg. a naphtholactam dye of the formula I [R = (cyclo)alkyl, aryl, allyl; R1 = arom. amine residue; X = anion; A = naphthalene ring; m = 1 or 2]. The recording layer can be formed easily, has high reflectance to provide satisfactory contrast, and exhibits excellent resistance to light. Thus, II and III were reacted in a mixt. of glacial acetic acid and acetic anhydride to give IV. An Et cellosolve soln. of IV was applied on a polycarbonate resin disk and dried to form 650 .ANG. film. Clear outline pits were obtained by irradiating the film with an 830 nm semiconductor \*\*\*laser\*\*\* at 6 mW. The carrier/noise level was 52, and a pit width of .apprx.1 .mu.m and a pit length of .apprx.2 .mu.m were obsd.

ST \*\*\*optical\*\*\* recording material naphtholactam dye  
IT Dyes

(naphtholactam, for \*\*\*optical\*\*\* recording materials with high reflectance)

IT Recording materials  
( \*\*\*optical\*\*\* , naphtholactam dyes for, for high reflectance and contrast)

IT 111703-21-0P 111703-23-2P 111703-25-4P 111703-27-6P 111703-29-8P  
111703-30-1P 111703-31-2P 111703-32-3P 111703-33-4P 111769-20-1P  
RL: TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepn and use of, in \*\*\*optical\*\*\* recording layer with high reflectance)

IT 111700-11-9P 111700-13-1P 111700-15-3P 111700-16-4P 111700-18-6P  
111700-20-0P 111700-22-2P 111700-24-4P 111700-26-6P 111700-28-8P  
111700-30-2P 111700-32-4P 111700-34-6P 111700-36-8P 111700-38-0P  
111700-40-4P 111700-42-6P 111700-44-8P 111700-46-0P 111700-48-2P  
111700-50-6P 111700-52-8P 111700-54-0P 111700-55-1P 111700-56-2P  
111700-57-3P 111700-58-4P 111700-59-5P 111700-60-8P  
\*\*\*111700-61-9P\*\*\* 111700-62-0P 111700-63-1P 111700-64-2P  
111700-65-3P 111700-67-5P 111700-69-7P 111700-71-1P 111700-73-3P  
111700-75-5P 111700-77-7P 111700-79-9P 111700-81-3P 111700-83-5P  
111700-85-7P 111700-87-9P 111700-89-1P 111700-91-5P 111700-92-6P  
111700-94-8P 111700-96-0P 111700-98-2P 111701-00-9P 111701-01-0P  
111701-03-2P 111701-05-4P 111701-07-6P 111701-09-8P 111701-11-2P  
111701-14-5P 111701-16-7P 111701-18-9P \*\*\*111701-20-3P\*\*\*  
\*\*\*111701-22-5P\*\*\* \*\*\*111701-24-7P\*\*\* 111701-26-9P  
\*\*\*111701-28-1P\*\*\* \*\*\*111701-30-5P\*\*\* \*\*\*111701-32-7P\*\*\*  
111701-34-9P \*\*\*111701-36-1P\*\*\* \*\*\*111701-38-3P\*\*\*  
\*\*\*111701-40-7P\*\*\* \*\*\*111701-42-9P\*\*\* \*\*\*111701-44-1P\*\*\*  
\*\*\*111701-46-3P\*\*\* \*\*\*111701-48-5P\*\*\* \*\*\*111701-50-9P\*\*\*  
\*\*\*111701-52-1P\*\*\* 111701-54-3P 111701-56-5P 111701-57-6P  
111701-58-7P 111701-59-8P 111701-60-1P 111701-62-3P 111701-63-4P  
111701-64-5P 111701-65-6P 111701-66-7P 111701-67-8P 111701-68-9P  
111701-69-0P 111701-70-3P 111701-71-4P 111701-72-5P 111701-73-6P  
111701-74-7P 111701-75-8P 111701-77-0P 111701-79-2P 111701-80-5P  
111701-81-6P 111701-82-7P 111701-83-8P 111701-84-9P 111701-85-0P  
111701-87-2P 111701-89-4P 111701-91-8P 111701-93-0P 111701-95-2P  
111701-97-4P 111701-99-6P 111702-01-3P 111702-03-5P 111702-05-7P  
111702-07-9P 111702-09-1P 111702-10-4P 111702-11-5P 111702-12-6P  
111702-13-7P 111702-14-8P 111702-15-9P 111702-17-1P 111702-18-2P  
111702-19-3P 111702-20-6P 111702-21-7P 111702-22-8P 111702-23-9P  
111702-24-0P 111702-25-1P 111702-26-2P 111702-27-3P 111702-28-4P  
111702-29-5P 111702-30-8P 111702-31-9P 111702-32-0P  
\*\*\*111702-33-1P\*\*\* \*\*\*111702-34-2P\*\*\* 111702-36-4P 111702-37-5P  
\*\*\*111702-38-6P\*\*\* \*\*\*111702-39-7P\*\*\* \*\*\*111702-41-1P\*\*\*  
\*\*\*111702-42-2P\*\*\* 111702-43-3P \*\*\*111702-44-4P\*\*\*  
\*\*\*111702-45-5P\*\*\* \*\*\*111702-46-6P\*\*\* \*\*\*111702-47-7P\*\*\*  
\*\*\*111702-48-8P\*\*\* 111702-50-2P \*\*\*111702-51-3P\*\*\*  
\*\*\*111702-52-4P\*\*\* 111702-54-6P 111702-56-8P 111702-58-0P  
111702-60-4P 111702-61-5P 111702-63-7P 111702-65-9P 111702-67-1P  
111702-69-3P 111702-71-7P 111702-73-9P 111702-75-1P 111702-77-3P  
111702-79-5P 111702-81-9P 111702-83-1P 111702-85-3P 111702-87-5P  
111702-89-7P 111702-91-1P 111702-93-3P 111702-95-5P 111702-97-7P  
111702-99-9P 111703-01-6P 111703-03-8P 111703-05-0P 111703-07-2P  
111703-09-4P 111703-11-8P 111703-13-0P 111703-15-2P 111703-17-4P  
111703-19-6P 111703-33-4P 111703-34-5P 111703-35-6P 111703-36-7P  
111703-37-8P 111703-38-9P 111703-39-0P 111703-40-3P 111703-41-4P  
111703-42-5P 111703-43-6P 111703-44-7P 111703-45-8P 111703-46-9P  
111703-47-0P 111703-48-1P 111703-49-2P 111703-51-6P 111703-53-8P  
111703-55-0P 111703-57-2P 111703-59-4P 111703-61-8P 111703-63-0P  
111703-65-2P 111703-67-4P 111703-69-6P 111703-71-0P 111703-73-2P  
111703-75-4P 111703-77-6P 111703-79-8P 111703-81-2P 111703-83-4P  
111703-85-6P 111703-87-8P 111703-89-0P 111703-91-4P 111703-93-6P  
111703-95-8P 111703-97-0P 111703-98-1P 111704-00-8P 111704-02-0P  
111704-04-2P 111704-06-4P  
RL: TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepn. and use of, in \*\*\*optical\*\*\* recording layer with high reflectance)

IT 111704-08-6P 111704-10-0P 111704-12-2P 111704-14-4P 111704-16-6P  
111704-18-8P 111704-20-2P 111704-22-4P 111704-24-6P 111704-26-8P  
111704-28-0P 111704-30-4P 111704-32-6P 111704-34-8P 111704-36-0P  
111704-38-2P 111704-40-6P 111704-42-8P 111704-44-0P 111704-46-2P

111704-48-4P 111704-49-5P 111704-50-8P 111704-51-9P 111704-52-0P  
 111704-53-1P 111704-55-3P 111704-57-5P 111704-59-7P 111720-44-6P  
 111720-45-7P 111720-46-8P 111720-47-9P \*\*\*111720-49-1P\*\*\*  
 \*\*\*111720-51-5P\*\*\* 111720-52-6P \*\*\*111720-53-7P\*\*\* 111720-55-9P  
 111720-57-1P 111720-59-3P \*\*\*111720-61-7P\*\*\* \*\*\*111720-63-9P\*\*\*  
 \*\*\*111720-64-0P\*\*\* \*\*\*111720-65-1P\*\*\* \*\*\*111720-66-2P\*\*\*  
 111720-68-4P 111720-69-5P 111720-70-8P 111720-71-9P 111720-72-0P  
 111720-73-1P 111720-74-2P 111720-75-3P 111720-76-4P 111720-77-5P  
 111720-78-6P 111720-79-7P 111720-80-0P 111720-81-1P 111720-82-2P  
 111720-83-3P 111720-84-4P 111720-85-5P 111720-86-6P 111720-88-8P  
 111720-89-9P 111720-90-2P 111720-91-3P 111720-92-4P 111720-93-5P  
 111720-94-6P 111720-95-7P 111720-96-8P 111720-97-9P 111720-98-0P  
 111721-00-7P 111721-01-8P 111721-02-9P 111721-03-0P 111721-05-2P  
 111721-06-3P 111721-07-4P 111721-08-5P 111721-10-9P 111721-11-0P  
 111721-12-1P 111721-13-2P 111721-14-3P 111721-15-4P 111721-16-5P  
 111721-17-6P 111721-18-7P 111721-19-8P 111721-20-1P 111721-21-2P  
 111721-22-3P 111721-23-4P 111721-24-5P 111721-25-6P 111721-26-7P  
 111721-27-8P 111721-28-9P 111721-29-0P 111721-30-3P 111745-68-7P  
 111745-69-8P 111745-70-1P 111745-72-3P 111764-67-1P 111769-17-6P  
 111769-18-7P 111769-19-8P 111769-21-2P 111769-22-3P 111769-23-4P  
 RL: TEM (Technical or engineered material use); PREP (Preparation); USES  
 (Uses)

(prepn. and use of, in \*\*\*optical\*\*\* recording layer with high  
 reflectance)

IT 92-14-8 6203-18-5 15492-42-9 111704-60-0 111704-61-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, naphtholactam dye for \*\*\*optical\*\*\* recording  
 material from)

L12 ANSWER 83 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:159093 CAPLUS

DN 108:159093

ED Entered STN: 30 Apr 1988

TI \*\*\*Optical\*\*\* recording media using IR-sensitive methine dyes

IN Kanno, Toshiyuki; Watanabe, Hitoshi; Hamanishi, Kohei

PA Olympus Optical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B41M005-26

ICS G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 62187088   | A2   | 19870815 | JP 1986-30149   | 19860214 |
|      | JP 07029491   | B4   | 19950405 |                 |          |
| PRAI | JP 1986-30149 |      | 19860214 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES       |
|-------------|-------|--|
| JP 62187088 | ICM   | B41M005-26                               |
|             | ICS   | G11B007-24                               |
|             | IPCI  | B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4] |
|             | ECLA  | B41M005/26                               |

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The title media have an \*\*\*optical\*\*\* recording layer contg. a methine  
 dye I [R1 = C1-6 alkyl, aralkyl or Ph; Z = II-V (R2 = H, halo, C1-6 alkyl,  
 NPh2, VI (R3 = C1-6 alkyl) X1 = O, S; X = ClO4-, BF4-, I-, Cl-, Br-,  
 p-toluenesulfonate ion; R4 = C1-18 alkyl, Z1OH, Z1CO2H, Z1OR5, Z1CO2R5,  
 Z1Ph, CHZ1Ph, VII, IX; (Z1 = C1-20 alkylene; R5 = C1-18 alkyl, Ph); m = 1,  
 2; R3 = Ph, OH, CO2H, CN, OCF3, OSF3, R7OH, R1COH, R1CO2H, R7OR8, R7COR8,  
 R7Ph, R1CN, OR8, COR8, NH2NR82, NHCOR8, NNPh (R7 = C1-20 alkyl; R8 = C1-18  
 alkyl, Ph) when m = 1, 2; C1-10 alkyl, halo when m = 2)]. The media have

high reflectivity, high IR-sensitivity, and sufficient stabilities to light and moisture.

ST \*\*\*optical\*\*\* recording medium dye methine; recording medium  
 IT \*\*\*optical\*\*\* IR sensitivity

IT Recording materials  
 ( \*\*\*optical\*\*\* , contg. IR-sensitive methine dyes)

IT 106152-89-0, IRG 003  
 RL: USES (Uses)  
 (IR absorber, \*\*\*optical\*\*\* recording layer contg.)

IT 110897-97-7  
 RL: USES (Uses)  
 (deposited on \*\*\*optical\*\*\* recording layer, as reflective protective-layer)

IT 23178-67-8 \*\*\*113840-68-9\*\*\* \*\*\*113840-69-0\*\*\* \*\*\*113840-71-4\*\*\*  
 \*\*\*113840-73-6\*\*\* \*\*\*113840-75-8\*\*\* 113840-77-0  
 RL: USES (Uses)  
 ( \*\*\*optical\*\*\* recording layer contg., with IR sensitivity)

L12 ANSWER 84 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1988:104074 CAPLUS  
 DN 108:104074  
 ED Entered STN: 19 Mar 1988  
 TI \*\*\*Optical\*\*\* recording medium containing cyanine dye  
 IN Kanno, Toshiyuki; Watanabe, Hitoshi; Hamanishi, Kohei  
 PA Olympus Optical Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 14 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 IC ICM B41M005-26  
 ICS C09B023-01; G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE     |
|--------------------|------|----------|-----------------|----------|
| JP 62173294        | A2   | 19870730 | JP 1986-14948   | 19860127 |
| PRAI JP 1986-14948 |      | 19860127 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES                            |
|-------------|-------|---|
| JP 62173294 | ICM   | B41M005-26  |
|             | ICS   | C09B023-01; G11B007-24  |
|             | IPCI  | B41M0005-26 [ICM,4]; C09B0023-01 [ICS,4]; G11B0007-24 [ICS,4] |

GI

/ Structure 34 in file .gra /

AB The title recording medium contains a dye selected from I [Z = A1:(CHCH)n:, CH:A2:(CHCH)n:, (CH:CH)nA1:(CHCH)n:CHA1:(CHCH)n:, CH:A2:(CHCH)n:A2:(CHCH)n:, A3(CH:CH)nCH:, A3(CH:CH)nA3(CH:CH)nCH, A1:(CHCH)n:A2:(CHCH)n:, A1:(CHCH)n:CHA3(CH:CH)nCH:, CH:A2:(CHCH)n:CHA3(CH:CH)nCH:; R1 = C1-6 alkyl, Ph; A1 = II, III, IV, V; A2 = VI; A3 = VII; Z1 = O, S, NR4; Z2 = O, S; R2 = halo; R3 = C1-20 alkyl, C1-20 hydroxyalkyl, C2-21 formylalkyl, C2-21 carboxyalkyl, C7-26 phenylalkyl, Z3CO2R5; R4 = H, halo, C1-8 alkyl, Ph, Ph2N, aralkyl; Z3 = C1-20 alkylene; R5 = C1-8 alkyl, Ph; X- = Cl-, Br-, I-, ClO4-, BrO4-, BF4-, p-toluenesulfonate ion; m = 1-4; n = 0, 1, 2].

ST \*\*\*optical\*\*\* recording medium cyanine dye; \*\*\*laser\*\*\* recording disk

IT Recording materials  
 ( \*\*\*optical\*\*\* , contg. cyanine dyes)

IT 23178-67-8 110897-97-7 \*\*\*113104-17-9\*\*\* 113104-18-0 113104-19-1  
 \*\*\*113157-80-5\*\*\*  
 RL: DEV (Device component use); USES (Uses)  
 ( \*\*\*laser\*\*\* recording disks contg.)

L12 ANSWER 85 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1988:85382 CAPLUS  
DN 108:85382  
ED Entered STN: 05 Mar 1988  
TI \*\*\*Optical\*\*\* recording medium  
IN Kanno, Toshiyuki; Watanabe, Hitoshi; Hamanishi, Kohei  
PA Olympus Optical Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 10 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM B41M005-26  
ICS G11B007-24  
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
-----  
PI JP 62164595 A2 19870721 JP 1986-7475 19860117  
PRAI JP 1986-7475 19860117

CLASS  
PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES  
-----  
JP 62164595 ICM B41M005-26  
ICS G11B007-24  
IPCI B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4]

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB An \*\*\*optical\*\*\* recording medium possesses a recording layer contg.  
an org. dye of the formula I or II [R1 = C1-6 alkyl, Ph; A1 = III, IV; A2  
= V, III, IV (R2 = C1-6 alkyl, H, halo, NPh2); X- = Cl-, Br-, ClO4-, BF4-,  
p-toluenesulfonate; Y, Z = C1-18 alkyl; m = 1, 2; n = 0, 1, 2].  
\*\*\*Laser\*\*\* writing and reading are possible with the medium.  
ST \*\*\*optical\*\*\* recording medium cyanine dye  
IT Dyes, cyanine  
( \*\*\*optical\*\*\* recording materials contg.)  
IT Recording materials  
( \*\*\*optical\*\*\* , \*\*\*laser\*\*\* , contg. cyanine dyes)  
IT 23178-67-8 110897-97-7 \*\*\*112026-63-8\*\*\* 112026-64-9 112026-65-0  
\*\*\*112026-67-2\*\*\*  
RL: TEM (Technical or engineered material use); USES (Uses)  
( \*\*\*optical\*\*\* recording material contg.)

L12 ANSWER 86 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1987:25775 CAPLUS  
DN 106:25775  
ED Entered STN: 24 Jan 1987  
TI Dye-sensitized electrophotographic recording material  
IN Franke, Werner; Brahm, Richard  
PA Hoechst A.-G. , Fed. Rep. Ger.  
SO Ger. Offen., 20 pp.  
CODEN: GWXXBX  
DT Patent  
LA German  
IC ICM G03G005-09  
ICS G03G005-06  
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
-----  
PI DE 3509147 A1 19860918 DE 1985-3509147 19850314  
US 4657836 A 19870414 US 1986-836419 19860305  
EP 194624 A2 19860917 EP 1986-103130 19860308  
EP 194624 A3 19880803  
EP 194624 B1 19930609  
R: DE, FR, GB, NL



JP 61217051 A2 19860926 JP 1986-55180 19860314  
 PRAI DE 1985-3509147 A 19850314

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES       |
|-------------|-------|--|
| DE 3509147  | ICM   | G03G005-09                               |
|             | ICS   | G03G005-06                               |
|             | IPCI  | G03G0005-09 [ICM,4]; G03G0005-06 [ICS,4] |
| US 4657836  | IPCI  | G03G0005-09 [ICM,4]                      |
|             | NCL   | 430/083.000; 430/093.000; 430/095.000    |
| EP 194624   | IPCI  | G03G0005-09 [ICM,4]                      |
| JP 61217051 | IPCI  | G03G0005-09 [ICM,4]                      |

GI

/ Structure 35 in file .gra /

AB Inorg. and org. electrophotog. photoreceptors, which are sensitive in the 400-700-nm region, are described. An electrochem. roughened and anodized Al foil was pretreated with poly(vinylphosphonic acid) and then coated with a soln. contg. the pentamethine cyanine dye (I), the trimethinecyanine dye (II), Astrazon Orange R, 2-vinyl-4-(2'-chlorophenyl-5-(4'-diethylaminophenyl)oxazole, maleic anhydride-styrene copolymer, Me glycol, THF, and BuOAc and dried to give a photoreceptor sensitive in the 420-730-nm region. The photoreceptor was then used to prepg. an offset printing plate capable of a high print run.

ST cyanine dye sensitizer electrophotog photoreceptor; inorg photoconductor electrophotog dye sensitizer; org photoconductor electrophotog dye sensitizer; zinc oxide photoconductor electrophotog sensitizer; oxazole photoconductor electrophotog dye sensitizer; oxadiazole photoconductor electrophotog dye sensitizer

IT Electrophotographic sensutizers  
 (cyanine dyes as, for inorg. and org. photoconductors)

IT Phenolic resins, uses and miscellaneous  
 RL: USES (Uses)  
 (electrophotog. photoreceptor with photoconductor layer contg. binder of, spectral sensitization of, dye sensitizer compns. for)

IT Electrophotographic plates  
 (with sensitivity in visible region)

IT Lithographic plates  
 (offset, cyanine dye-sensitized \*\*\*laser\*\*\* -sensitive materials for fabrication of)

IT Electric circuits  
 (printed, cyanine dye-sensitized \*\*\*laser\*\*\* -sensitive materials for fabrication of)

IT 1314-13-2, Zinc oxide, uses and miscellaneous 1679-98-7 22159-33-7  
 55766-52-4  
 RL: USES (Uses)  
 (electrophotog. photoreceptor with photoconductive layer contg., spectral sensitization of, dye sensitizer compns. for)

IT 9011-13-6, Maleic anhydride-styrene copolymer  
 RL: USES (Uses)  
 (electrophotog. photoreceptor with photoconductor layer contg. binder of, spectral sensitization of, dye sensitizer compns. for)

IT 3056-93-7, Astrazon Orange G 4208-80-4, Astrazon Yellow 3G 4208-81-5, Astrazon Yellow 5G \*\*\*4657-00-5\*\*\*, Astrazon Orange R 6359-50-8  
 25470-94-4 36536-22-8 105937-85-7  
 RL: USES (Uses)  
 (spectral sensitizer compn. contg., for electrophotog. photoconductors)

L12 ANSWER 87 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1986:488737 CAPLUS  
 DN 105:88737  
 ED Entered STN: 06 Sep 1986  
 TI \*\*\*Optical\*\*\* recording materials  
 IN Nanba, Noriyoshi; Asami, Shigeru; Aoi, Toshiki; Takahashi, Kazuo; Kuroiwa, Akihiko  
 PA TDK Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 34 pp.  
 CODEN: JKXXAF  
 DT Patent

LA Japanese  
IC ICM B41M005-26  
ICS C09B023-00; G11B007-24; G11C013-04  
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 60232995   | A2   | 19851119 | JP 1984-89841   | 19840504 |
|      | JP 05026669   | B4   | 19930416 |                 |          |
| PRAI | JP 1984-89841 |      | 19840504 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|-------------|-------|--|
| JP 60232995 | ICM   | B41M005-26   |
|             | ICS   | C09B023-00; G11B007-24; G11C013-04   |
|             | IPCI  | B41M0005-26 [ICM,4]; C09B0023-00 [ICS,4]; G11B0007-24 [ICS,4]; G11C0013-04 [ICS,4] |

AB \*\*\*Optical\*\*\* recording materials contain a dye cation-quencher anion salt and an addnl. dye. The recording materials (heat-mole \*\*\*laser\*\*\* type) give recorded disks with excellent durability and moisture resistance.

ST \*\*\*laser\*\*\* recording disk cyanine dye; quencher dye salt  
\*\*\*laser\*\*\* recording

IT Recording materials  
( \*\*\*optical\*\*\* , \*\*\*laser\*\*\* -sensitive, contg. cyanine dye-quencher salts and cyanine dyes)

IT 102644-04-2 \*\*\*102723-34-2\*\*\* 102723-36-4 \*\*\*102723-38-6\*\*\*  
102723-40-0 102723-42-2 102723-43-3 103750-48-7 103750-49-8

RL: USES (Uses)

( \*\*\*laser\*\*\* recording medium contg. cyanine dye and)

IT \*\*\*33608-99-0\*\*\* 76433-27-7 77770-24-2 86193-83-1

\*\*\*99789-81-8\*\*\* \*\*\*102580-86-9\*\*\* 102580-88-1

RL: USES (Uses)

( \*\*\*laser\*\*\* recording medium contg. cyanine dye-quencher salt and)

L12 ANSWER 88 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1986:120089 CAPLUS

DN 104:120089

ED Entered STN: 05 Apr 1986

TI \*\*\*Laser\*\*\* recording materials

IN Nanba, Noriyoshi

PA TDK Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 29 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B41M005-26

ICS C09B023-00; G11B007-24; G11C013-04

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 60159087   | A2   | 19850820 | JP 1984-14848   | 19840130 |
|      | JP 01039917   | B4   | 19890824 |                 |          |
|      | JP 02138369   | A2   | 19900528 | JP 1989-125417  | 19890518 |
| PRAI | JP 1984-14848 |      | 19840130 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|-------------|-------|---|
| JP 60159087 | ICM   | B41M005-26  |
|             | ICS   | C09B023-00; G11B007-24; G11C013-04  |
|             | IPCI  | B41M0005-26 [ICM,4]; C09B0023-00 [ICS,4]; G11B0007-24 [ICS,4]; G11C0013-04 [ICS,4]                      |
| JP 02138369 | IPCI  | C09B0023-00 [ICM,5]; B41M0005-26 [ICS,5]; C09B0023-02 [ICS,5]; C09B0023-14 [ICS,5]; C09D0011-02 [ICS,5] |

GI For diagram(s), see printed CA Issue.

AB The title materials are obtained by forming on a substrate a recording layer contg. a dye cation-quencher anion compd. [e.g., a compd. of the formula I (A = condensed benzene or naphthalene ring; A1 = a N-contg. heterocyclic ring residue; Z1, Z2 = methine group; R1, R3 = alkyl, aryl,

alkenyl; R2 = aryl; n = 1,2; M = transition metal, such as Ni, Co, Cu, Pd, Pt, and etc.; R4-R7 = H, Me, Et, Cl, NMe2, NEt2)]. The dye cation may have a heterocyclic ring contg. a pos. charged hetero atom or may be a dye having a pos.-charged methine chain and the quencher anion a transition metal chelate anion.

ST \*\*\*laser\*\*\* recording material dye chelate  
IT Ion pairs  
(cationic dye-transition metal chelate anion, \*\*\*laser\*\*\* recording materials contg.)  
IT Dyes  
(cationic, ion pairs with transition metal chelate anions, in \*\*\*laser\*\*\* recording materials)  
IT Recording materials  
( \*\*\*optical\*\*\* , with recording layer contg. ionic pair of cationic dye and transition metal chelate anion)  
IT 99774-71-7P 99774-73-9P 99774-75-1P 99774-76-2P \*\*\*99789-85-2P\*\*\*  
99789-86-3P 99789-88-5P  
RL: PREP (Preparation)  
(prepn. and \*\*\*laser\*\*\* recording material applications of)  
IT 18838-95-4 77770-20-8 78324-87-5 86193-88-6 99789-84-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with bis(dichlorodithiophenolato)nickel(II) tetrabutylammonium)  
IT \*\*\*99789-81-8\*\*\* 99789-83-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with bis(trichlorodithiophenolato)nickel(II) tetrabutylammonium)  
IT 97428-30-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with cyanine dye perchlorate)  
IT 99774-80-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with nitrogen-contg. or tellurium-contg. cationic dye)

L12 ANSWER 89 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1986:98943 CAPLUS  
DN 104:98943  
ED Entered STN: 22 Mar 1986  
TI Quantum counting by \*\*\*laser\*\*\* dyes in a broad spectral range including the near-infrared region  
AU Brecht, Eberhard  
CS Cent. Inst. Genet. Res. Cultiv. Plants, Ger. Acad. Sci., Gatersleben, DDR 4325, Ger. Dem. Rep.  
SO Analytical Chemistry (1986), 58(2), 384-7  
CODEN: ANCHAM; ISSN: 0003-2700  
DT Journal  
LA English  
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
AB Some \*\*\*laser\*\*\* dyes were examd. which could serve as quantum counters with an extended red response. The benzopyrylium salts CZ 144 and CZ 682 dissolved in CH2Cl2 have high molar absorptivities of 117,500 L mol-1 cm-1 at 667 nm (CZ 144) and 131,800 L mol-1 cm-1 at 720 nm (CZ 682), relative quantum yields of fluorescence above 0.5, sufficient stability, low changes in fluorescence intensity over the temp. range from 16 to 32.degree., as well as only small polarization effects. The \*\*\*laser\*\*\* dye CZ 144 and, in a qualified sense, CZ 682 are suitable quantum counters to correct excitation spectra of fluorescence up to 700 and 780 nm, resp.  
ST \*\*\*laser\*\*\* dye quantum counter  
IT Fluorescence  
(of \*\*\*laser\*\*\* quantum counting dyes)  
IT Dyes  
( \*\*\*laser\*\*\* , in quantum counting)  
IT 75-09-2, uses and miscellaneous  
RL: USES (Uses)  
(as \*\*\*laser\*\*\* dye solvent in quantum counting)  
IT 81190-25-2 \*\*\*99309-28-1\*\*\*  
RL: PRP (Properties)  
(as quantum counter in solns.)

L12 ANSWER 90 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1986:59012 CAPLUS

DN 104:59012  
 ED Entered STN: 23 Feb 1986  
 TI Nonlinear absorption spectroscopy of polymethine dyes in the 1.064 .mu.m region  
 AU Prokhorenko, V. I.; Melishchuk, M. V.; Tikhonov, E. A.  
 CS Inst. Fiz., Kiev, USSR  
 SO Ukrainskii Fizicheskii Zhurnal (Russian Edition) (1985), 30(10), 1480-8  
 CODEN: UFIZAW; ISSN: 0503-1265  
 DT Journal  
 LA Russian  
 CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 41  
 AB Nonlinear resonance absorption dependences (NRADs) on radiation power d. in polymethine dye solns. were measured at .apprx.1.064 .mu.m for ultrashort \*\*\*laser\*\*\* pulses. In most cases, these dependences corresponded to 3-level singlet states with fast vibrational relaxation. The absorption cross section and relaxation time between excited states were detd. based on this model. For the N 3955 PhNO2 soln., the NRADs were described by 3-level singlet states with inhomogeneously broadened levels.  
 ST IR nonlinear absorption polymethine dye  
 IT \*\*\*Laser\*\*\* radiation  
 (nonlinear absorption of, by polymethine dyes)  
 IT Dyes, cyanine  
 (polymethine, nonlinear absorption spectroscopy of)  
 IT \*\*\*Optical\*\*\* nonlinear property  
 (absorption, IR, of polymethine dyes)  
 IT \*\*\*Optical\*\*\* absorption  
 (nonlinear, IR, of polymethine dyes)  
 IT 37271-06-0 66556-81-8 99623-59-3 99623-61-7 \*\*\*99632-95-8\*\*\*  
 99675-16-8 100012-45-1  
 RL: PRP (Properties)  
 (nonlinear IR absorption spectroscopy of)

L12 ANSWER 91 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1985:496480 CAPLUS  
 DN 103:96480  
 ED Entered STN: 22 Sep 1985  
 TI \*\*\*Optical\*\*\* recording materials  
 PA TDK Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 23 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM B41M005-26  
 ICS C09B023-01; G11B007-24; G11C013-04  
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1  

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------------|------|----------|-----------------|----------|
| JP 60083892         | A2   | 19850513 | JP 1983-193060  | 19831015 |
| JP 04041671         | B4   | 19920709 |                 |          |
| PRAI JP 1983-193060 |      | 19831015 |                 |          |

CLASS  

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|-------------|-------|--|
| JP 60083892 | ICM   | B41M005-26   |
|             | ICS   | C09B023-01; G11B007-24; G11C013-04   |
|             | IPC   | B41M0005-26 [ICM,4]; C09B0023-01 [ICS,4]; G11B0007-24 [ICS,4]; G11C0013-04 [ICS,4] |

GI For diagram(s), see printed CA Issue.  
 AB \*\*\*Optical\*\*\* recording materials contain a dye of the formula I [A = benzene or naphthalene ring; Z, Z' = (un)substituted methyne; R,R2 = (un)substituted alkyl, aryl, alkenyl; R1, (un)substituted aryl; Z2= group of atoms required to complete heterocycle; X- = anion; p = 1, 2, 3; m, n = 0, 1] and a quencher. Thus, an acrylic disk was coated with a compn. contg. II and a quencher to give a heat-mode \*\*\*laser\*\*\* recording disk with good sensitivity and stable readout characteristics.  
 ST \*\*\*laser\*\*\* recording disk cyanine dye; quencher \*\*\*laser\*\*\* recording disk

IT Recording materials  
 ( \*\*\*optical\*\*\* , cyanine dye-oxygen quencher mixts. for  
 direct-read-after-write type)  
 IT 9004-70-0  
 RL: USES (Uses)  
 ( \*\*\*laser\*\*\* recording disks contg. cyanine dye and oxygen quencher  
 and, direct-read-after-write type)  
 IT 97816-93-8 97816-94-9 \*\*\*97839-06-0\*\*\*  
 RL: USES (Uses)  
 ( \*\*\*laser\*\*\* recording disks contg. singlet oxygen quencher and,  
 direct-read-after-write type)  
 IT 56530-95-1 82769-31-1  
 RL: USES (Uses)  
 (oxygen quencher, direct-read-after-write type \*\*\*laser\*\*\*  
 recording disks contg. cyanine dye and)

L12 ANSWER 92 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1985:229344 CAPLUS

DN 102:229344

ED Entered STN: 29 Jun 1985

TI Photoelectrochemical studies of sensitizing dyes adsorbed to silver  
 bromide sheet-crystal electrodes

AU Sandifer, J. R.

CS Res. Lab., Eastman Kodak Co., Rochester, NY, 14650, USA

SO Journal of Imaging Science (1985), 29(1), 27-36

CODEN: JISCEJ; ISSN: 8750-9237

DT Journal

LA English

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)

Section cross-reference(s): 72

AB Modulation photocurrents can be generated by spectral sensitization of  
 AgBr sheet crystals used as working electrodes in electrochem. cells.  
 These currents contain kinetic \*\*\*information\*\*\* which can be extd. by  
 phase resoln. The photocurrent lags the modulated light by an angle which  
 depends upon the rate of a slow (15-150 Hz) process which has been  
 tentatively identified as filling of traps within the space-charge region  
 of the Ag halide, influenced perhaps by holes trapped in the dye. Addnl.  
 observations include hole injection by a sensitizing dye and O dependence  
 of both hole and electron injections. Measurements of photocurrents which  
 depend strongly upon potential distributions within the AgBr crystal  
 itself are also presented. These photocurrents are generated by bandgap  
 radiation. The merits of quantifying this technique and perhaps extending  
 it to include more photog. meaningful systems such as emulsions and films  
 are discussed.

ST photoelectrochem dye silver bromide; sensitizer photocurrent generation  
 silver bromide; spectral sensitizer photocurrent generation photog

IT Electron, conduction

Hole

(injection of, by sensitizing dyes to silver bromide sheet-crystal  
 photoelectrochem. electrodes)

IT Electric current

(photostimulated, in system of sensitizing dye adsorbed to silver  
 bromide sheet-crystal electrode)

IT Electrodes

(photoelectrochem., silver bromide sheet-crystal, with adsorbed dyes)

IT 1613-31-6 18426-56-7 23312-07-4 \*\*\*23779-67-1\*\*\* 54290-15-2

\*\*\*54290-19-6\*\*\*

RL: USES (Uses)

(photoelectrochem. studies of sensitizing dye of, adsorbed to silver  
 bromide sheet-crystal electrode)

IT 7785-23-1

RL: USES (Uses)

(photoelectrochem. studies of sensitizing dyes adsorbed to  
 sheet-crystal electrodes of)

L12 ANSWER 93 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1985:212270 CAPLUS

DN 102:212270

ED Entered STN: 15 Jun 1985

TI Pyrrolic salts with complex substituents. Relation between spectral  
 characteristics and structure

AU Boiko, I. I.; Boiko, T. N.; Bonch-Bruevich, A. M.; Markina, T. A.;  
 CS USSR  
 SO Optika i Spektroskopiya (1985), 58(1), 56-63  
 CODEN: OPSPAM; ISSN: 0030-4034  
 DT Journal  
 LA Russian  
 CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 Section cross-reference(s): 22  
 AB Visible absorption spectra of a large series of substituted pyrilic salts  
 showed that 2 relatively independent conjugated subsystems, corresponding  
 to specific mol. fragments, are present. The cross sections were detd.  
 for the absorption from the 1st excited state and the compds., lasing in  
 the region up to 760 .mu.m when UV excited, were selected.  
 High-efficiency intramol. transfer of excitation energy between the  
 subsystems and the possibility of varying the absorption spectrum of 1  
 subsystem without affecting the spectrum of the other enable one to tune  
 the absorption spectrum to the excitation wavelength without changing the  
 spectral region of \*\*\*laser\*\*\* radiation. The nonlinear increase of  
 transparency in absorption bands was also studied.  
 ST \*\*\*laser\*\*\* pyrilic salt substituent effect; visible absorption  
 pyrilic salt \*\*\*laser\*\*\* ; energy transfer pyrilic salt \*\*\*laser\*\*\*  
 IT Energy transfer  
 (in pyrilic salts, lasing in relation to)  
 IT Ultraviolet and visible spectra  
 (of pyrilic salts, substituent effect in relation to)  
 IT \*\*\*Lasers\*\*\*  
 (pyrilic salts)  
 IT 580-34-7 6661-99-0 15959-33-8 15959-35-0 41044-52-4 47159-06-8  
 47301-70-2 47454-42-2 47454-45-5 47454-47-7 47454-48-8  
 47501-29-1 47589-11-7 47589-29-7 47633-03-4 47708-76-9  
 66472-92-2 80572-12-9 84185-89-7 86450-88-6 95974-85-9  
 95994-49-3 95994-50-6 95994-52-8 95994-53-9 95994-54-0  
 95994-55-1 95994-56-2 95994-57-3 95994-58-4 95994-59-5  
 95994-60-8 95994-61-9 95994-63-1 95994-65-3 95994-67-5  
 95994-68-6 95994-69-7 95994-70-0 95994-71-1 95994-72-2  
 95994-73-3 95994-74-4 95994-75-5 95994-76-6 95994-77-7  
 95994-78-8 95994-79-9 \*\*\*96020-79-0\*\*\* 96424-89-4 96424-90-7  
 RL: PRP (Properties)  
 (visible absorption spectrum and lasing of)  
 L12 ANSWER 94 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1985:194746 CAPLUS  
 DN 102:194746  
 ED Entered STN: 02 Jun 1985  
 TI Stimulated emission of frequency-tunable ultrashort pulses from a dynamic  
 distributed feedback \*\*\*laser\*\*\*  
 AU Bezrodnyi, V. I.; Zabello, E. I.; Tikhonov, E. A.  
 CS Inst. Fiz., Kiev, USSR  
 SO Kvantovaya Elektronika (Moscow) (1985), 11(12), 2438-42  
 CODEN: KVEKA3; ISSN: 0368-7147  
 DT Journal  
 LA Russian  
 CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 AB The performance was studied of a dynamic distributed feedback (DDFB)  
 \*\*\*laser\*\*\* utilizing dye-activated polyurethane and pumped by a train  
 of ultrashort pulses (USP) from an Nd3+:YAG \*\*\*laser\*\*\*. An  
 interference scheme with division of the pump pulse duration was used to  
 form DDFB. The direct measurement of the emitted pulse width was made by  
 an electron- \*\*\*optical\*\*\* chronograph <<Agat-SF>> and DDFB  
 considerable (up to fourfold) narrowing of the emitted pulses occurs as  
 compared to the pump pulses. Radiation tuning in the range of 560-600 nm  
 was obtained, the USP duration being .apprx.8 ps, the divergence being  
 .apprx.1 mrad and the lasing efficiency USP.  
 ST dynamic distributed feedback \*\*\*laser\*\*\*  
 IT Urethane polymers, uses and miscellaneous  
 RL: USES (Uses)  
 ( \*\*\*laser\*\*\* from dye-contg., dynamic distributed feedback  
 ultrashort pulse)  
 IT \*\*\*Lasers\*\*\*

(dye, frequency-tunable ultrashort pulse dynamic distributed feedback)  
IT 7325-85-1 96353-21-8 \*\*\*148077-02-5\*\*\*  
RL: DEV (Device component use); USES (Uses)  
( \*\*\*laser\*\*\* from, dynamic distributed feedback ultrashort pulse)

L12 ANSWER 95 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1985:70330 CAPLUS  
DN 102:70330  
ED Entered STN: 24 Feb 1985  
TI \*\*\*Optical\*\*\* \*\*\*information\*\*\* recording media  
PA Ricoh Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 8 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC B41M005-26; G11B007-24  
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 59150795   | A2   | 19840829 | JP 1983-23854   | 19830217 |
|      | JP 05025676   | B4   | 19930413 |                 |          |
| PRAI | JP 1983-23854 |      | 19830217 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-------------|-------|------------------------------------|
| JP 59150795 | IC    | B41M005-26; G11B007-24             |
|             | IPCI  | B41M0005-26; G11B0007-24           |

GI For diagram(s), see printed CA Issue.

AB The title media have a recording layer contg. .gtoreq.1 compd. of the formula I (R, R1 = alkyl, hydroxyalkyl, alkoxyalkyl, aralkyl, carboxyalkyl or an alkali metal salt thereof, sulfoalkyl or an alkali metal salt thereof; R2 = H, halo, OH, CO2H, C1-5 alkyl, aryl, alkylamino, arylamino, CO2R3; R3 = C1-5 alkyl, Ph, substituted Ph; A, B = a 5- or 6-membered heterocyclic ring, a condensed ring contg. a 5- or 6-membered heterocyclic ring; D = a 5- or 6-membered C-ring or a heterocyclic ring; m, n = 0-2; X = acid anion). The media show excellent characteristics such as high sensitivity (record reproducibility), storage stability, and thermal stability. Thus, a 1 wt. % II soln. in dichloroethane was coated on an acrylic sheet and dried to obtain a recording layer (500 .ANG. thick) which showed excellent characteristics when irradiated with a semiconductor \*\*\*laser\*\*\*.

ST \*\*\*optical\*\*\* recording media sensitivity; thiazole deriv recording media; oxazole deriv recording media; selenazole deriv recording media; indole deriv recording media; quinoline deriv recording media; pyridine deriv recording media

IT Recording materials

( \*\*\*optical\*\*\* , \*\*\*laser\*\*\* -sensitive, dyes for)

|    |            |            |                  |            |            |
|----|------------|------------|------------------|------------|------------|
| IT | 33675-88-6 | 94531-08-5 | ***94531-09-6*** | 94531-11-0 | 94531-14-3 |
|    | 94531-16-5 | 94531-17-6 | 94531-18-7       | 94531-20-1 | 94531-21-2 |

RL: TEM (Technical or engineered material use); USES (Uses)

( \*\*\*laser\*\*\* recording materials contg.)

L12 ANSWER 96 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1985:47279 CAPLUS  
DN 102:47279  
ED Entered STN: 09 Feb 1985  
TI Thermal transfer sheets  
PA Dai Nippon Printing Co., Ltd., Japan  
SO Jpn. Tokkyo Koho, 9 pp.  
CODEN: JAXXAD

DT Patent

LA Japanese

IC B41M003-12

CC 40-6 (Textiles)

Section cross-reference(s): 41, 42

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 59041874   | B4   | 19841011 | JP 1976-45144   | 19760420 |
| PRAI | JP 1976-45144 |      | 19760420 |                 |          |

## CLASS

| PATENT NO.  | CLASS  | PATENT FAMILY CLASSIFICATION CODES |
|-------------|--|------------------------------------|
| JP 59041874 | IC<br>IPCI   | B41M003-12<br>B41M0003-12          |
| AB          | Transfer inks contain dye lakes having essentially no thermal transfer properties and agents imparting thermal transfer properties to the dye lakes. Thus, an ink contg. Et cellulose (I) 70, Peacock Blue phosphomolybdic acid lake (II) 185, and 8:2 xylene-BuOH 745 parts was gravure printed on paper to form a pattern, coated with 880 parts 1:1 xylene-BuOH contg. 70 parts I and 50 parts KOH to prep. a transfer, and printed on a plain weave polyacrylonitrile fabric at 180.degree. to give a transfer layer having ***optical*** reflection concn. 1.30 or 1.20-1.25 if the transfer sheet was stored 5 days at 50.degree. and printed, compared with 1.30 or 0.8-0.9 when Peacock Blue was used in place of II.  |                                    |
| ST          | ink transfer printing textile; acrylic fabric transfer printing; dye lake transfer ink   |                                    |
| IT          | Tannins  |                                    |
|             | RL: USES (Uses)<br>(dye lakes, transfer printing of, on fabrics)   |                                    |
| IT          | Textile printing<br>(transfer, of dye lakes on acrylic fabrics)  |                                    |
| IT          | 1310-58-3, uses and miscellaneous<br>RL: USES (Uses)<br>(transfer printing of dye lakes on fabrics in presence of)   |                                    |
| IT          | 61-73-4D, tannic acid lakes 81-88-9D, phosphomolybdate lakes<br>569-64-2D, phosphomolybdate lakes 2580-56-5D, phosphomolybdate lakes<br>3521-06-0D, phosphomolybdate lakes 3648-36-0D, tannic acid lakes<br>4208-80-4D, tannic acid lakes ***4657-00-5D***, tannic acid lakes<br>6441-82-3D, tannic acid lakes 6548-12-5D, tannic acid lakes<br>8004-87-3D, phosphomolybdate lakes 12217-50-4D, tannic acid lakes<br>12221-60-2D, tannic acid lakes<br>RL: PROC (Process)<br>(transfer printing of, on fabrics)  |                                    |
| L12         | ANSWER 97 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  |                                    |
| AN          | 1983:603518 CAPLUS   |                                    |
| DN          | 99:203518  |                                    |
| ED          | Entered STN: 12 May 1984   |                                    |
| TI          | Photographic characteristics of a polymeric composition containing a charge transfer complex   |                                    |
| AU          | Grishina, A. D.; Chernov, G. M.  |                                    |
| CS          | Inst. Elektrokhim., Moscow, USSR   |                                    |
| SO          | Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (1983), 28(5), 326-33<br>CODEN: ZNPFG; ISSN: 0044-4561   |                                    |
| DT          | Journal  |                                    |
| LA          | Russian  |                                    |
| CC          | 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)   |                                    |
| AB          | Anal. is presented of the characteristic curves for a polymeric system contg. a donor-acceptor system (dibenzylamine (I)-CBr4] and a weak charge-transfer complex (I.CBr4). The sensitivity was detd. for the system with and without a cyanine dye sensitizer. The reciprocity law was fulfilled in the light irradiated layers; localization of the curve and contrast coeff. were detd. In the case of a freshly deposited layer (contg. traces of a solvent) under the conditions of ***optical*** image intensification (i.e. after the initial uniform UV exposure with .lambda. = 365 +/- 15 nm, the layer was subjected to visible light .lambda. = 665 +/- 15 nm irradiation) reciprocity law was not obeyed, until full removal of the solvent took place. |                                    |
| ST          | dibenzylamine carbon tetrabromide photoimaging; charge transfer acceptor donor photoimaging  |                                    |
| IT          | Photoimaging compositions and processes<br>(charge-transfer system as, contg. diphenylbenzylamine and carbon tetrabromide in polymeric matrix, imaging characteristics of)   |                                    |
| IT          | Charge-transfer complexes<br>RL: USES (Uses)<br>(diphenylbenzylamine-carbon tetrabromide, photoimaging polymeric system contg.)  |                                    |
| IT          | ***29329-91-7***   |                                    |



RL: USES (Uses)  
 (photoimaging donor-acceptor polymeric system contg.)  
 IT 558-13-4  
 RL: USES (Uses)  
 (photoimaging donor-acceptor polymeric system contg. diphenylbenzylamine  
 and, characteristics and mechanism of image formation in)  
 IT 9002-86-2  
 RL: PRP (Properties)  
 (photoimaging donor-acceptor system contg. diphenylbenzylamine and  
 carbon tetrabromide in matrix of)  
 IT 76092-61-0  
 RL: USES (Uses)  
 (photoimaging polymeric system contg.)  
 L12 ANSWER 98 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1983:513659 CAPLUS  
 DN 99:113659  
 ED Entered STN: 12 May 1984  
 TI Sensitization of polymer films containing diphenylbenzylamine and carbon  
 tetrabromide to visible light by cyanine dyes.  
 AU Grishina, A. D.; Vannikov, A. V.; Galiullina, T. N.; Al'perovich, M. A.;  
 Shapiro, B. I.  
 CS Inst. Elektrokhim., Moscow, USSR  
 SO Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (1983), 28(3),  
 175-81  
 CODEN: ZNPFAG; ISSN: 0044-4561  
 DT Journal  
 LA Russian  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 AB The mechanism of spectral sensitization of a donor-acceptor system  
 (diphenylbenzylamine-CBr<sub>4</sub>) by a cyanine dye is based on the fact that the  
 dye acts as an electron relay between the amine and CBr<sub>4</sub>. The most  
 effective sensitizers for poly(vinyl chloride) films contg.  
 diphenylbenzylamine and CBr<sub>4</sub> are those dyes with E<sub>1/2</sub>(ox) .gtoreq.  
 E<sub>1/2</sub>(ox) of the amine. Also, some dyes with E<sub>1/2</sub>(ox) .ltoreq. 0.9 V  
 underwent photodecolorization in the presence of CBr<sub>4</sub> (in solns. and in  
 the polymeric matrix) but this reaction was less feasible for  
 \*\*\*information\*\*\* recording because of a low quantum efficiency and lack  
 of a method of image amplification.  
 ST electron donor acceptor photoimaging sensitization; cyanine dye  
 sensitization donor acceptor; carbon tetrabromide diphenylbenzylamine  
 spectral sensitization  
 IT Photoimaging compositions and processes  
 (diphenylbenzylamine-carbon tetrabromide system in poly(vinyl chloride)  
 films as, visible light sensitization of, by cyanine dyes)  
 IT Electron exchange  
 (in photosensitive diphenylbenzylamine-carbon tetrabromide system  
 spectrally sensitized by cyanine dyes)  
 IT Photolysis  
 (of electron donor-acceptor system contg. diphenylbenzylamine and  
 carbon tetrabromide in polymeric film, cyanine dye sensitization of,  
 mechanism of)  
 IT Dyes, cyanine  
 (sensitization by, of polymeric films contg. diphenylbenzylamine-carbon  
 tetrabromide system to visible light, mechanism of)  
 IT 82970-83-0P  
 RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, in photolysis of diphenylbenzylamine-carbon tetrabromide  
 system in polymeric matrix, cyanine dye sensitizers for)  
 IT 9002-86-2  
 RL: USES (Uses)  
 (photoimaging films contg. diphenylbenzylamine-carbon tetrabromide  
 system and, cyanine dyes as spectral sensitizers for)  
 IT 514-73-8 634-14-0 905-97-5 977-96-8 2013-77-6 3071-70-3  
 3520-43-2 15979-18-7 17094-08-5 \*\*\*86932-79-8\*\*\*  
 \*\*\*86932-80-1\*\*\* \*\*\*86945-00-8\*\*\*  
 RL: USES (Uses)  
 (photolysis of polymeric films contg. diphenylbenzylamine and carbon  
 tetrabromide system sensitized by, mechanism of)  
 IT 558-13-4  
 RL: USES (Uses)

(photolysis of polymeric films contg. diphenylbenzylamine and, cyanine dyes as sensitizers for)

IT 606-87-1

RL: USES (Uses)

(photolysis of polymeric system contg. carbon tetrabromide and, cyanine dyes as sensitizers for)

L12 ANSWER 99 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1981:488961 CAPLUS

DN 95:88961

ED Entered STN: 12 May 1984

TI Material for electrophotographic reproduction

IN Lind, Erwin

PA Hoechst A.-G. , Fed. Rep. Ger.

SO Ger. Offen., 17 pp.

CODEN: GWXXBX

DT Patent

LA German

IC G03G005-04

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

|      | PATENT NO.                            | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------------------------------|------|----------|-----------------|----------|
| PI   | DE 2949826                            | A1   | 19810619 | DE 1979-2949826 | 19791212 |
|      | EP 31481                              | A1   | 19810708 | EP 1980-107575  | 19801204 |
|      | EP 31481                              | B1   | 19850227 |                 |          |
|      | R: AT, BE, CH, DE, FR, GB, IT, NL, SE |      |          |                 |          |
|      | CA 1146794                            | A1   | 19830524 | CA 1980-366136  | 19801204 |
|      | AT 12011                              | E    | 19850315 | AT 1980-107575  | 19801204 |
|      | FI 8003838                            | A    | 19810613 | FI 1980-3838    | 19801210 |
|      | AU 8065221                            | A1   | 19810618 | AU 1980-65221   | 19801210 |
|      | AU 539930                             | B2   | 19841025 |                 |          |
|      | BR 8008096                            | A    | 19810630 | BR 1980-8096    | 19801211 |
|      | ZA 8007766                            | A    | 19811230 | ZA 1980-7766    | 19801211 |
|      | ES 497639                             | A1   | 19820501 | ES 1980-497639  | 19801211 |
|      | JP 56107246                           | A2   | 19810826 | JP 1980-174793  | 19801212 |
| PRAI | DE 1979-2949826                       | A    | 19791212 |                 |          |
|      | EP 1980-107575                        | A    | 19801204 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES                                |
|-------------|-------|---|
| DE 2949826  | IC    | G03G005-04  |
|             | IPCI  | G03G0005-04   |
| EP 31481    | IPCI  | G03G0005-06; G03G0005-09  |
| CA 1146794  | IPCI  | G03G0005-06; G03G0005-09  |
| AT 12011    | IPCI  | G03G0005-06 [ICM,4]; G03G0005-09 [ICS,4]                          |
| FI 8003838  | IPCI  | G03G  |
| AU 8065221  | IPCI  | G03G0005-04   |
| BR 8008096  | IPCI  | G03G0005-04; G03C0001-76  |
| ZA 8007766  | IPCI  | G03G  |
| ES 497639   | IPCI  | G03G0005-04   |
| JP 56107246 | IPCI  | G03G0005-06; G03G0005-09; G03G0005-14 [ICA];<br>G03G0013-28 [ICA] |

AB The electrophotog. materials of Ger. Offen 2,526,720 (CA 86: 81715n) for the prodn. of printing plates or printed circuits in mW Ar ion \*\*\*laser\*\*\* light (488 nm), consisting of a roughened Al support with an oxazole or oxadiazole type photoconductor sensitized with a cyanine dye absorbing in the 400-550 nm range (Astrazon Orange R) in an alkali-sol. binder, fail to reproduce yellowed originals. By combining 0.001-0.1% of the cyanine dye with 0.001-0.01% of an aminoxanthene dye (Rhodamine B), adsorbing in the 450-600 nm range, materials can be obtained which do not have this defect, can be handled in red darkroom light, and do not reproduce blue guide lines in assemblies. They have a high sensitivity in repro cameras, a low dark decay, a press life of >100,000 copies, and are etch-resistant. Thus, a 300 .mu. pretreated Al plate was coated (5 .mu. dry) with a mixt. of 2 solns.: (a) 2-phenyl-4-(2-chlorophenyl)-5-(4-diethylaminophenyl)oxazole 40 and a styrene-maleic anhydride copolymer 60 g in THF 400, Me glycol 200, and BuOAc 100 g; and (b) 30 g of a MeOH soln. of Astrazon Orange R 2 and Rhodamine B 0.2 g. After giving a charge of -450 V, the plate was exposed in a repro camera to an assembly including a yellowed original, using 10 600-W halogen lamps. Toner development yielded a copy free of background and the blue guide lines of the

assembly.  
 ST electrophotog printing plate \*\*\*laser\*\*\* material  
 IT Photography, electro-, photoconductors  
 (cyanine dye-sensitized, \*\*\*laser\*\*\* -sensitive, for printing plate  
 prepn.)  
 IT Printing plates  
 ( \*\*\*laser\*\*\* -sensitive electrophotog. photoconductive compn. for  
 prepn. of)  
 IT 81-88-9 1679-98-7 3056-93-7 \*\*\*4657-00-5\*\*\* 6359-50-8  
 9011-13-6 25086-15-1 55766-52-4 78729-98-3  
 RL: USES (Uses)  
 (electrophotog. photoconductive compn. contg., \*\*\*laser\*\*\*  
 -sensitive, for printing plate prepn.)

L12 ANSWER 100 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1981:93559 CAPLUS  
 DN 94:93559  
 ED Entered STN: 12 May 1984  
 TI Stabilized cyanine dyes and their use  
 IN Gratzel, Michael; Steiger, Rolf  
 PA Ciba-Geigy A.-G., Switz.  
 SO Eur. Pat. Appl., 57 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA German  
 IC G03C001-12; C09B067-00; C09B023-00; H01S003-20  
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
 Section cross-reference(s): 40, 73

FAN.CNT 1

|      | PATENT NO.                | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------------------|------|----------|-----------------|----------|
| PI   | EP 13257                  | A2   | 19800709 | EP 1979-810174  | 19791204 |
|      | EP 13257                  | A3   | 19810603 |                 |          |
|      | EP 13257                  | B1   | 19830622 |                 |          |
|      | R: BE, CH, DE, FR, GB, IT |      |          |                 |          |
|      | JP 55089359               | A2   | 19800705 | JP 1979-164175  | 19791219 |
| PRAI | CH 1978-13109             | A    | 19781222 |                 |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES                 |
|-------------|-------|--|
| EP 13257    | IC    | G03C001-12; C09B067-00; C09B023-00; H01S003-20     |
|             | IPCI  | G03C0001-12; C09B0067-00; C09B0023-00; H01S0003-20 |
| JP 55089359 | IPCI  | C09B0067-34  |

GI

/ Structure 36 in file .gra /

AB The lightfastness, fluorescence polarization, and fluorescence quantum  
 yield of cyanine dyes can be increased by stabilization of the dyes with a  
 micelle structure. The thus stabilized dyes can be used in various  
 photog. materials and processes as well as in \*\*\*lasers\*\*\*. Thus, a  
 soln. of I 1 .times. 10-5 mol in MeOH has placed in a flask and the MeOH  
 then distd. off to give a thin film of I in the flask. A soln. of Na  
 lauryl sulfate 5 .times. 10-2 mol in water was then added and stirred at  
 30.degree. to dissolve the dye. The soln. was then exposed to a Xe lamp  
 (XBO-450 W lamp) for 24 h to show no alteration in the spectral  
 characteristics while an aq. soln. of I contg. no tenside showed complete  
 alteration (decompn. of the mol.) after a 24 h exposure.

ST cyanine dye stabilization micelle; \*\*\*laser\*\*\* cyanine dye  
 stabilization micelle; color photog cyanine stabilization micelle  
 IT Photography, color  
 (cyanine dyes for, stabilization of, micelles in)  
 IT Light  
 (filters, cyanine dyes for, micelles in stabilization of)  
 IT Micelles  
 (stabilization by, of cyanine dyes)  
 IT Dyes, cyanine  
 (stabilization of, micelles in)  
 IT \*\*\*Lasers\*\*\*  
 (dye, stabilization of cyanine dyes for, micelles in)

IT 76633-49-3 76633-50-6  
RL: USES (Uses)  
(micelles contg., stabilization by, of cyanine dyes)  
IT 57-09-0 151-21-3, uses and miscellaneous 3097-08-3 9014-90-8  
41343-91-3 61702-79-2 73005-45-5 75010-75-2 75503-70-7  
RL: USES (Uses)  
(micelles, stabilization by, of cyanine dyes)  
IT 55199-31-0  
RL: PROC (Process)  
(stabilization of, in silver-dye-bleach photog. materials, micelles in)  
IT 1745-32-0 3520-43-2 23312-07-4 \*\*\*29329-88-2\*\*\* 71032-75-2  
76578-82-0 76578-84-2 76578-85-3  
RL: PROC (Process)  
(stabilization of, micelles in)

L12 ANSWER 101 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1980:621909 CAPLUS  
DN 93:221909  
ED Entered STN: 12 May 1984  
TI Synthesis of some antipyrylmethines. I. Asymmetrical antipyrylmethines  
AU Kokkinos, K.; Markopoulos, C.  
CS Dep. Org. Chem., Nucl. Res. Cent. "Demokritos", Athens, Greece  
SO Journal fuer Praktische Chemie (Leipzig) (1980), 322(4), 543-53  
CODEN: JPCEAO; ISSN: 0021-8383  
DT Journal  
LA German  
CC 40-7 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)  
Section cross-reference(s): 22  
OS CASREACT 93:221909  
GI

/ Structure 37 in file .gra /

AB Antipyrin-4-aldehyde [950-81-2], prepd. by Vilsmeier formylation of  
antipyrine [60-80-0], was condensed with Me-substituted heterocyclic N  
comps. to give a series of dimethine dyes of general structure I, where  
Q+ = substituted benzimidazolium, benzoxazolium, benzothiazolium,  
benzoselenazolium, indolinium, pyridinium, pyrylium, thiopyrylium,  
acridinium, xanthylium, thioxanthylium, and quinolinium. The effects of  
heterocyclic group basicity and annulation and of substituents on the  
absorption max. (331-637 nm, HOAc) of the dyes was discussed.  
ST antipyrine asym dimethine dye; spectra antipyrine dimethine dye; basicity  
heterocycle dye spectra; annulation heterocycle dye spectra; substituent  
effect dye spectra; methine dye antipyrine; cyanine dye antipyrine;  
selenazole dimethine dye; pyrazolone dimethine dye  
IT Ring  
(annulation of pyridine, in antipyrine asym. dimethine cyanine dyes,  
spectra in relation to)  
IT Dyes, cyanine  
(antipyrine asym. dimethines, prepn. and spectra of)  
IT Color  
Ultraviolet and visible spectra  
(of antipyrine asym. dimethine cyanine dyes, effect of substituents and  
heterocyclic nuclei annulation and basicity on)  
IT Basicity  
(of heterocyclic nuclei in antipyrine asym. dimethine cyanine dyes,  
spectra in relation to)  
IT Molecular structure-property relationship  
(visible spectra, of antipyrine asym. dimethine cyanine dyes)  
IT 60-80-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(Vilsmeier formylation of)  
IT 706-67-2 1161-73-5 7654-52-6 10446-44-3 13586-30-6 16859-80-6  
21377-12-8 25426-77-1 32348-57-5 32348-61-1 34646-13-4  
41494-44-4 75664-28-7 75664-29-8 75664-44-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation reaction of, with antipyrinecarboxaldehyde)  
IT 950-81-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and condensation reaction with methyl-substituted heterocyclic  
onium compds.)

IT \*\*\*75664-21-0P\*\*\* \*\*\*75664-23-2P\*\*\* \*\*\*75664-25-4P\*\*\*  
75664-27-6P 75664-31-2P 75664-33-4P 75664-35-6P 75664-37-8P  
75664-39-0P 75664-41-4P 75664-43-6P 75664-46-9P 75664-48-1P  
75664-50-5P 75664-52-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and \*\*\*optical\*\*\* absorption max. of)

L12 ANSWER 102 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1979:213240 CAPLUS  
DN 90:213240  
ED Entered STN: 12 May 1984  
TI Offset printing plate  
IN Yoshida, Akio; Tanaka, Akira; Tsubai, Yasuo  
PA Mitsubishi Paper Mills, Ltd., Japan  
SO U.S., 10 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
IC G03C005-54  
INCL 096076000R  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
FAN.CNT 2

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO.  | DATE     |
|------|----------------|------|----------|------------------|----------|
| PI   | US 4134769     | A    | 19790116 | US 1977-822192   | 19770805 |
|      | JP 53021601    | A2   | 19780228 | JP 1976-95274    | 19760810 |
|      | JP 57024907    | B4   | 19820526 |                  |          |
|      | US 4134769     | B1   | 19831122 | US 1982-90000306 | 19821210 |
| PRAI | JP 1976-95274  | A    | 19760810 |                  |          |
|      | US 1977-822192 | A    | 19770805 |                  |          |

CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|-------------|-------|---|
| US 4134769  | IC    | G03C005-54  |
|             | INCL  | 096076000R  |
|             | IPCI  | G03C0005-54; G03C0001-48  |
|             | NCL   | 430/217.000; 101/450.100; 430/199.000; 430/204.000;<br>430/230.000                    |
| JP 53021601 | IPCI  | G03F0007-06   |
| US 4134769  | IPCI  | G03C0005-54 [ICM,3]; G03C0001-48 [ICS,3]; G03F0007-02<br>[ICS,3]; B41M0001-00 [ICS,3] |
|             | NCL   | 430/217.000; 101/450.100; 430/199.000; 430/204.000;<br>430/230.000                    |

GI

/ Structure 38 in file .gra /

AB A photosensitive plate for producing an offset printing plate is comprised of a support, a Ag halide photog. emulsion layer, and a surface layer contg. nuclei for phys. development, to which surface layer an image formed in the Ag halide photog. emulsion layer is transferred. The Ag halide photog. emulsion layer is sensitized by a betaine or anionic cyanine dye. Thus, a cubic monodispersed Ag(Br,I) emulsion with a 1:1 Ag:gelatin wt. ratio was sensitized with Au, S, and the cyanine dye I at 150 mg/mol Ag, coated on a poly(ethylene terephthalate) film support at 1.3 g Ag/m<sup>2</sup>, overcoated with a Pd sulfide sol, exposed through an \*\*\*optical\*\*\* wedge having a d. difference of 0.15, treated in a photog. Ag complex diffusion-transfer developing soln. (Mitsubishi Silver Master) for 1 min at 30.degree., stopped, and washed with H<sub>2</sub>O to show a relative speed of 646 vs. 100 for a I-free control. The film was used as an offset printing plate to produce 2000 copies.

ST pos photog emulsion lithog plate; cyanine photosensitizer photog lithog plate

IT Photographic sensitizers  
(betaine and anionic cyanine dyes as, for direct-pos.  
diffusion-transfer photog. films for offset printing plate prepn.)  
IT Lithographic plates

(offset, direct-pos. diffusion-transfer photog. emulsions contg.  
betaine and anionic cyanine dye sensitizers for)

IT 21521-26-6 62417-69-0 67821-29-8 67821-30-1 67821-31-2  
67821-32-3 \*\*\*70399-50-7\*\*\*

RL: TEM (Technical or engineered material use); USES (Uses)  
(photog. sensitizer, for direct-pos. diffusion-transfer photog. films  
for offset printing plate prepn.)

L12 ANSWER 103 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1979:144300 CAPLUS

DN 90:144300

ED Entered STN: 12 May 1984

TI Printing plates by \*\*\*laser\*\*\* exposure

IN Lind, Erwin

PA Hoechst A.-G., Fed. Rep. Ger.

SO Ger. Offen., 14 pp.

CODEN: GWXXBX

DT Patent

LA German

IC G03G013-28

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

|      | PATENT NO.      | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-----------------|------|----------|-----------------|----------|
| PI   | DE 2726263      | A1   | 19781221 | DE 1977-2726263 | 19770610 |
|      | DE 2726263      | C2   | 19851010 |                 |          |
|      | JP 60006512     | B4   | 19850219 | JP 1977-83361   | 19770712 |
|      | JP 54019803     | A2   | 19790214 |                 |          |
|      | GB 1582199      | A    | 19801231 | GB 1977-31074   | 19770725 |
| PRAI | DE 1977-2726263 | A    | 19770610 |                 |          |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|------------|-------|------------------------------------|
|------------|-------|------------------------------------|

|             |      |                          |
|-------------|------|--------------------------|
| DE 2726263  | IC   | G03G013-28               |
|             | IPCI | G03G0013-28              |
| JP 60006512 | IPCI | G03G0013-28; B41N0001-14 |
| GB 1582199  | IPCI | G03G0013-26              |

AB Plates coated with various dye-sensitized org. photoconductors and resinous binders sol. in aq. or alc. liqs., such as styrene-maleic anhydride copolymers (Monsanto Lytron) or phenolic resins (Hoechst Alnovol), can be exposed, without need for an Ag or ZnO master, to an inexpensive 350-750 nm He-Ne or Ar \*\*\*laser\*\*\*. Such 5-20 mW, <500 .mu.J/cm2 \*\*\*lasers\*\*\* consume little energy, require no cooling, and have a relatively long life. Thus, a photoconductive 4-5.mu. coating, absorbing at 630 nm, was applied to a mech. brushed 100 .mu. Al foil as soln. of 2-vinyl-4-(2'-chlorophenyl)-5-(4''-diethylaminophenyl)oxazole 40, a styrene-maleic anhydride copolymer 47, chlorinated rubber 10, and brilliant green 0.4 g in THF 510, Me glycol 330, and BuOAc 150 g. The plate was charged to -400 V, exposed to a modulated 632 nm 15 mW He-Ne \*\*\*laser\*\*\*, developed with a C-resin powder, and fixed at 150.degree. to a wipe-fast copy.

ST printing plate \*\*\*laser\*\*\* exposure electrophotog; lithog plate  
\*\*\*laser\*\*\* exposure electrophotog; offset printing plate electrophotog;  
argon \*\*\*laser\*\*\* exposure printing plate; helium neon \*\*\*laser\*\*\*  
exposure printing

IT \*\*\*Laser\*\*\* radiation, chemical and physical effects  
(electrophotog. prodn. of printing plates by)

IT Lithographic plates  
(electrophotog. prodn. of, \*\*\*laser\*\*\* exposure in)

IT Printing plates  
(electrophotog. prodn. of, using \*\*\*laser\*\*\* exposure)

IT Rubber, chlorinated

RL: USES (Uses)

(photoconductive compns. contg., for printing plate prodn. by  
electrophotog. using \*\*\*laser\*\*\* exposure)

IT 633-03-4 1679-98-7 \*\*\*4657-00-5\*\*\* 22159-33-7

RL: USES (Uses)

(photoconductive compns. contg., for printing plate prodn. by  
electrophotog. using \*\*\*laser\*\*\* exposure)

L12 ANSWER 104 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1977:81715 CAPLUS

DN 86:81715  
 ED Entered STN: 12 May 1984  
 TI Material for electrophotographic reproduction  
 IN Lind, Erwin  
 PA Hoechst A.-G., Fed. Rep. Ger.  
 SO Ger. Offen., 17 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 IC G03G005-04  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
 FAN.CNT 1

|      | PATENT NO.      | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-----------------|------|----------|-----------------|----------|
| PI   | DE 2526720      | A1   | 19761216 | DE 1975-2526720 | 19750614 |
|      | DE 2526720      | B2   | 19770630 |                 |          |
|      | AU 7614749      | A1   | 19771215 | AU 1976-14749   | 19760609 |
|      | AU 507694       | B2   | 19800221 |                 |          |
|      | US 4063948      | A    | 19771220 | US 1976-694712  | 19760610 |
|      | CH 604219       | A    | 19780831 | CH 1976-7355    | 19760610 |
|      | BE 842889       | A1   | 19761213 | BE 1976-167876  | 19760611 |
|      | DK 7602600      | A    | 19761215 | DK 1976-2600    | 19760611 |
|      | DK 142514       | B    | 19801110 |                 |          |
|      | DK 142514       | C    | 19810629 |                 |          |
|      | FI 7601678      | A    | 19761215 | FI 1976-1678    | 19760611 |
|      | FI 59681        | B    | 19810529 |                 |          |
|      | FI 59681        | C    | 19810910 |                 |          |
|      | NO 7602039      | A    | 19761215 | NO 1976-2039    | 19760611 |
|      | NO 142552       | B    | 19800527 |                 |          |
|      | NO 142552       | C    | 19800903 |                 |          |
|      | SE 7606661      | A    | 19761215 | SE 1976-6661    | 19760611 |
|      | SE 418121       | B    | 19810504 |                 |          |
|      | SE 418121       | C    | 19810813 |                 |          |
|      | NL 7606342      | A    | 19761216 | NL 1976-6342    | 19760611 |
|      | NL 187249       | B    | 19910218 |                 |          |
|      | NL 187249       | C    | 19910716 |                 |          |
|      | FR 2314521      | A1   | 19770107 | FR 1976-17720   | 19760611 |
|      | FR 2314521      | B1   | 19830128 |                 |          |
|      | BR 7603771      | A    | 19770208 | BR 1976-3771    | 19760611 |
|      | ZA 7603486      | A    | 19770525 | ZA 1976-3486    | 19760611 |
|      | ES 448823       | A1   | 19771201 | ES 1976-448823  | 19760611 |
|      | GB 1553696      | A    | 19791003 | GB 1976-24309   | 19760611 |
|      | CA 1084326      | A1   | 19800826 | CA 1976-254670  | 19760611 |
|      | JP 52002437     | A2   | 19770110 | JP 1976-69648   | 19760614 |
|      | JP 61013223     | B4   | 19860412 |                 |          |
|      | AT 7604335      | A    | 19780415 | AT 1976-4335    | 19760614 |
|      | AT 347239       | B    | 19781211 |                 |          |
| PRAI | DE 1975-2526720 | A    | 19750614 |                 |          |

# CLASS

| PATENT NO.  | CLASS | PATENT FAMILY CLASSIFICATION CODES   |
|-------------|-------|--|
| DE 2526720  | IC    | G03G005-04   |
|             | IPCI  | G03G0005-04  |
| AU 7614749  | IPCI  | G03G0005-09  |
| US 4063948  | IPCI  | G03G0005-06  |
|             | NCL   | 430/083.000; 430/081.000; 430/096.000                                      |
| CH 604219   | IPCI  | G03G0005-04  |
| BE 842889   | IPCI  | G03G   |
| DK 7602600  | IPCI  | G03G   |
| FI 7601678  | IPCI  | G03G   |
| NO 7602039  | IPCI  | G03G   |
| SE 7606661  | IPCI  | G03G0005-06  |
| NL 7606342  | IPCI  | G03G0005-04  |
| FR 2314521  | IPCI  | G03G0005-09  |
| BR 7603771  | IPCI  | G03G0005-04  |
| ZA 7603486  | IPCI  | G03G   |
| ES 448823   | IPCI  | G03G   |
| GB 1553696  | IPCI  | G03G0005-09  |
| CA 1084326  | IPCI  | G03G0005-06  |
| JP 52002437 | IPCI  | G03G0005-09; G03G0013-28; H05K0003-00                                      |
| AT 7604335  | IPCI  | G03G0005-09  |
| AB          |       | Dimethine dyes derived from 3-dimethylindolenine, absorbing in the 480-520 |

nm range, sensitize org. photoconductor layers in the blue region, as required for the prodn. of printing plates or printed circuits by Ar ion \*\*\*lasers\*\*\*. Thus, a soln. of 2,5-bis(4'-diethylaminophenyl)-1,3,4-oxadiazole 40, a styrene-maleic anhydride copolymer 47, chlorinated rubber 10, and Astrazone Orange R (C.I. 48,040) 2g in a mixt. of THF 520, methyl glycol 330, and BuOAc 150 g was coated on a surface-roughed 100 .mu. Al plate as 5 .mu. layer with a sensitivity max. at 480 nm. It was given a -450 V charge, exposed to an imagewise modulated 10mW Ar ion \*\*\*laser\*\*\*, and processed to a plate yielding <100,000 prints with a resolu. of 6 lines/mm.

ST electrophotog printing plate prodn; photoconductor org blue sensitizing  
IT Rubber, chlorinated  
RL: USES (Uses)  
(electrophotog. org. photoconductor compn. contg., blue-sensitive, for printing plate and elec. circuit prodn.)  
IT Printing plates  
(electrophotog. prodn. of, blue-sensitized org. photoconductor layers for)  
IT Photography, electro-  
(photoconductors, org., blue sensitization of, for printing plate prepn.)  
IT Electric circuits  
(printed, electrophotog. prodn. of, blue-sensitized org. photoconductor layers for)  
IT 1679-98-7 \*\*\*4657-00-5\*\*\* 9011-13-6 22159-33-7  
RL: USES (Uses)  
(electrophotog. org. photoconductor compn. contg., blue-sensitive, for printing plate and elec. circuit prodn.)

L12 ANSWER 105 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1974:527454 CAPLUS  
DN 81:127454  
ED Entered STN: 12 May 1984  
TI State of some basic dyes in aqueous solutions  
AU Borisova, I. A.; Kalugin, A. A.  
CS USSR  
SO Trudy po Khimii i Khimicheskoi Tekhnologii (1973), (3), 62-3  
CODEN: TKKTAE; ISSN: 0564-3457  
DT Journal  
LA Russian  
CC 68-2 (Phase Equilibriums, Chemical Equilibriums, and Solutions)  
Section cross-reference(s): 40, 80  
AB Hydrolytic pK values were detd. for some basic dyes from the dependence of \*\*\*optical\*\*\* d. or photoluminescence intensity on pH of their 10-5 to 10-3 M aq. solns. Astrazon Red Violet FRR, Astrazon Orange R, Rhodamine 6G, and Astra Phloxine had pK 8.7, 9.5, 9.7, and 11.4, resp.  
ST Astrazon Red Violet FRR ionization; Astrazon Orange R ionization; Rhodamine 6G ionization; Astra Phloxine ionization  
IT Ionization in liquids  
(of cyanine and rhodamine dyes)  
IT 989-38-8 \*\*\*4657-00-5\*\*\* 6320-14-5 11075-23-3  
RL: PEP (Physical, engineering or chemical process); PROC (Process)  
(ionization of)

L12 ANSWER 106 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1974:408409 CAPLUS  
DN 81:8409  
ED Entered STN: 12 May 1984  
TI Electrophotographic recording material and method  
IN Janssens, Wilhelmus; Dierckx, Josef; Sneyers, Hendrik H.  
PA Agfa-Gevaert A.-G.  
SO Ger. Offen., 43 pp.  
CODEN: GWXXBX  
DT Patent  
LA German  
IC G03G  
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
FAN.CNT 1

|    | PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE     |
|----|------------|------|----------|-----------------|----------|
| PI | DE 2346803 | A1   | 19740328 | DE 1973-2346803 | 19730918 |
|    | GB 1441105 | A    | 19760630 | GB 1972-44010   | 19730830 |



|                    |    |          |                 |          |
|--------------------|----|----------|-----------------|----------|
| BE 804636          | A2 | 19740311 | BE 1973-1005348 | 19730910 |
| JP 49071942        | A2 | 19740711 | JP 1973-106850  | 19730921 |
| US 3912509         | A  | 19751014 | US 1973-399503  | 19730921 |
| PRAI GB 1972-44010 | A  | 19720922 |                 |          |

# CLASS

| PATENT NO.  | CLASS   | PATENT FAMILY CLASSIFICATION CODES |
|-------------|---|------------------------------------|
| DE 2346803  | IC  | G03G                               |
|             | IPCI  | G03G0005-06                        |
| GB 1441105  | IPCI  | C07D0209-82; G03G0005-06           |
| BE 804636   | IPCI  | G03C                               |
| JP 49071942 | IPCI  | G03G0005-06                        |
| US 3912509  | IPCI  | G03G0005-04                        |
|             | NCL   | 430/079.000                        |
| AB          | N-Anilinocarbazole, obtained by treating carbazole with PhNO <sub>2</sub> -NaOH at <100.degree., followed by hydrogenation, and its alkylated or benzylated derivs. are photoconductors which can be mixed with other org. or inorg. photoconductors and sensitized with 0.01-5% of methine, Ph <sub>3</sub> Me, or xanthene dyes or with nonionic Lewis acids forming a charge transfer complex. With <90% of a vinyl chloride, epoxy, silicone polymer as binder they can be coated as 2-20 .mu. layers having an ***optical*** d. <0.3 and accepting pos. or neg. charges. Thus, Al-laminated paper was coated with a mixt. of a 10% soln. of N-anilinocarbazole in CH <sub>2</sub> Cl <sub>2</sub> 50 ml, a vinyl chloride-vinyl acetatemaleic anhydride terpolymer 5 g, and ClC <sub>2</sub> H <sub>4</sub> Cl 45 ml to give 2 g photoconductor per m <sup>2</sup> . |                                    |
| ST          | electrophotog anilinocarbazole photoconductor   |                                    |
| IT          | Rubber hydrochloride  |                                    |
|             | RL: USES (Uses)   |                                    |
|             | (electrophotog. anilinocarbazole photoconductive compn. contg.)   |                                    |
| IT          | Photography, electro-   |                                    |
|             | (photoconductive compns. contg. anilinocarbazoles for)  |                                    |
| IT          | 1-Propene, homopolymer, chlorinated   |                                    |
|             | RL: USES (Uses)   |                                    |
|             | (electrophotog. photoconductive compn. contg. anilinocarbazole and)   |                                    |
| IT          | 25085-82-9  |                                    |
|             | RL: USES (Uses)   |                                    |
|             | (electrophotog. anilinocarbazole photoconductive compn. contg.)   |                                    |
| IT          | 81-88-9 82-44-0 88-74-4 633-03-4 695-77-2 2338-12-7   |                                    |
|             | ***4657-00-5*** 17095-31-7 32835-32-8 53167-78-5  |                                    |
|             | RL: USES (Uses)   |                                    |
|             | (electrophotog. anilinocarbazole photoconductive compn. sensitized by)  |                                    |
| IT          | 52708-37-9 53167-73-0 53167-74-1 53167-75-2 53167-76-3  |                                    |
|             | 53167-77-4  |                                    |
|             | RL: USES (Uses)   |                                    |
|             | (electrophotog. photoconductive compn. contg. vinyl chloride-vinyl acetate-maleic anhydride polymer and)  |                                    |

L12 ANSWER 107 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1974:76449 CAPLUS

DN 80:76449

ED Entered STN: 12 May 1984

TI Pulse \*\*\*lasers\*\*\* with solutions of organic dyes in the region 7100-11,000 Ang

AU Tikhonov, E. A.; Shpak, M. T.

CS USSR

SO Kvantovaya Elektronika (Kiev) (1972), No. 6, 48-71

CODEN: KVELA6; ISSN: 0368-7155

DT Journal

LA Russian

CC 73-6 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)

AB The threshold, lifetimes, and spectral characteristics of org.-dye \*\*\*lasers\*\*\* excited by ruby- \*\*\*laser\*\*\* beams and emitting at 7100 - 11,000 .ANG. were studied in order to find the optimum effectiveness of the energy conversion. An energy diagram of a complicated org. mol. consisting of 5 vibronic levels (1S, 2S, 3S, 3T, 4T) of a uniform width was used for the theor. anal. of the energy characteristics of this type of \*\*\*laser\*\*\*. The effectiveness of an org. \*\*\*laser\*\*\* depends on the spectral fluorescence parameters of the dye soln., the homogeneity of the active layer excitation, and the effective length of the resonator. Org. dyes (28) were studied and their spectral data (absorption max., fluorescence max., and the quantum yield of fluorescence) are given.

Several types of resonators were studied, differing by the angle of the incident ruby- \*\*\*laser\*\*\* beam. The optimum conditions, detd. for the threshold intensities, do not change with increasing pumping intensity.

ST \*\*\*laser\*\*\* org dye soln; fluorescence \*\*\*laser\*\*\* dye soln;  
 IT energy transition \*\*\*laser\*\*\* dye  
 IT Dyes  
 IT ( \*\*\*laser\*\*\* soln., \*\*\*optical\*\*\* properties of)  
 IT Energy level transition  
 IT Fluorescence  
 IT \*\*\*Optical\*\*\* absorption  
 IT (of org. dyes for soln. \*\*\*lasers\*\*\* )  
 IT \*\*\*Lasers\*\*\*  
 IT (org. dye soln.)  
 IT 3071-70-3 13603-03-7 17094-17-6 18300-31-7 19208-25-4 19208-26-5  
 IT \*\*\*20658-84-8\*\*\* \*\*\*23279-73-4\*\*\* 32332-43-7 34719-05-6  
 IT 34719-06-7 34719-09-0 34719-10-3 34884-78-1 34884-79-2  
 IT 34884-80-5 34884-81-6 34884-82-7 34930-56-8 51528-87-1  
 IT 51528-88-2 51528-89-3 51528-90-6 51528-91-7 51528-93-9  
 IT 51528-94-0 51585-53-6 51919-66-5  
 IT RL: PRP (Properties)  
 IT ( \*\*\*laser\*\*\* emission and \*\*\*optical\*\*\* properties of)

L12 ANSWER 108 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1972:52708 CAPLUS  
 DN 76:52708  
 ED Entered STN: 12 May 1984  
 TI Optimum conditions for \*\*\*laser\*\*\* generation in solutions of organic compounds for the 7100-11,000 Ang spectral region  
 AU Bereza, V. N.; Dobrovolskaya, O. V.; Tikhonov, E. A.; Shpak, M. T.  
 CS USSR  
 SO Zhurnal Prikladnoi Spektroskopii (1971), 15(4), 630-5  
 CODEN: ZPSBAX; ISSN: 0514-7506  
 DT Journal  
 LA Russian  
 CC 73 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)  
 AB The properties of \*\*\*laser\*\*\* emission by 13 Cyanine dyes in EtOH and Me2CO solns. in the near ir region are presented.  
 ST \*\*\*laser\*\*\* emission cyanine dye; IR \*\*\*laser\*\*\* cyanine dye  
 IT \*\*\*Lasers\*\*\*  
 IT (cyanine dye)  
 IT Dyes, cyanine  
 IT ( \*\*\*laser\*\*\* generation in)  
 IT 3071-70-3 20658-83-7 \*\*\*23279-73-4\*\*\* 32332-43-7 34719-09-0  
 IT 34884-76-9 34884-78-1 34884-79-2 34884-80-5 34884-81-6  
 IT 34884-82-7 36413-12-4 36478-63-4  
 IT RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
 IT ( \*\*\*laser\*\*\* emission by)

L12 ANSWER 109 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1972:39459 CAPLUS  
 DN 76:39459  
 ED Entered STN: 12 May 1984  
 TI Intensive fluorescence from the second excited state of molecular solutions of organic dyes  
 AU Dyadyusha, G. G.; Przhonskaya, O. V.; Tikhonov, E. A.; Shpak, M. T.  
 CS Inst. Fiz., Kiev, USSR  
 SO Pis'ma v Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki (1971), 14(5), 330-3  
 CODEN: PZETAB; ISSN: 0370-274X  
 DT Journal  
 LA Russian  
 CC 73 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)  
 AB For solns. of 8 cyanine dyes, intense shortwave fluorescence from the 2nd excited electronic state (S2 .fwdarw. S0) was obtained. For these dyes, absorption max. of the 1st and 2nd electronic transitions are at 600-900 and 330-400 nm (3-6 times less intense), resp. The 2nd harmonic of a ruby \*\*\*laser\*\*\* (5 MW) and a Hg lamp were used for the excitation of the dye solns.; absorption max., energy gaps between the S1 and S2 states, and fluorescence max. for the individual dyes are given. The fluorescence is not related either to the photochem. decompn. of the dyes or to their

impurities. The weak relation between the 1st and 2nd excited electronic states is attributed to a preferential localization of excitation in the polymethine chain and the heterocyclic rings for the 1st and 2nd transitions, resp. The dyes investigated can be used for lasing in the S2 .fwdarw. S0 transition.

ST cyanine dye fluorescence \*\*\*laser\*\*\* ; excited state fluorescence dye  
IT \*\*\*Lasers\*\*\*  
(cyanine dyes)  
IT Dyes, cyanine  
(fluorescence and spectra of, from second excited state)  
IT Infrared spectra  
Ultraviolet and visible spectra  
(of cyanine dyes)  
IT Fluorescence  
(of cyanine dyes from second excited state)  
IT \*\*\*20658-84-8\*\*\* 34719-04-5 34719-05-6 34719-06-7 34719-07-8  
34719-08-9 34719-09-0 34719-10-3  
RL: PRP (Properties)  
(fluorescence and spectrum of, from second excited state)

L12 ANSWER 110 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1968:414508 CAPLUS

DN 69:14508

ED Entered STN: 12 May 1984

TI Stimulated light emission by dilute solutions of polymethine dyes

AU Tikhonov, E. O.; Shpak, M. T.

CS Inst. Fiz., Kiev, USSR

SO Ukrains'kii Fizichnii Zhurnal (Ukrainian Edition) (1967), 12(12), 2077-9

CODEN: UFZHAT; ISSN: 0372-400X

DT Journal

LA Ukrainian

CC 73 (Spectra and Other Optical Properties)

AB Stimulated light emission by 10-5M solns. in EtOH of the polymethine dyes 3,3'-diethyl-9,11,13 (penta-1',3',5'-triyl)-thiathiazolinotricarbocyanine iodide (I), 1,1'-diethyl-4,4'-carbocyanine iodide (II), 3,3'-diethyl-9,12-epoxythiatricarbocyanine iodide (III), 3,3'-diethyl-9,11,13(penta-1",3",5"-triyl)-thiatricarbocyanine iodide (IV), 1,1'-diethylindotricarbocyanine iodide (V), 3,3'-dimethyl-9,11(0-phenylene)thiadicarbocyanine iodide (VI), and 3,3'-diethylthiatricarbocyanine iodide (VII) was studied. Emission was excited by a ruby \*\*\*laser\*\*\* with a power of 30 Mw. A soln. of vanadyl phthalocyanine in quinoline, placed into direct contact with the ruby, was used as modulator. Because the n of quinoline is close to that of ruby the loss of energy at the boundary ruby-quinoline was small and generation in the secondary resonator at the levels of pumping applied was absent. The threshold of stimulated emission was 5-6 Mw./sq. cm. for I and III-VII. It reached .apprx.15 Mw./sq.cm. for II. The concn. of dyes in EtOH was \*\*\*optical\*\*\* from the standpoint of concn. quenching of fluorescence. The half-width of the line of stimulated emission increased with an increasing power of excitation to .apprx.100 A. from .apprx.20 A. at the threshold. The absorption band of the dyes was in the region of emission of the ruby \*\*\*laser\*\*\*. The following wavelength shifts were obtained (compd., wavelength at the max. of the absorption band, wavelength of stimulated emission, both in m.mu. given): I, 705, 724; II, 714, 737; III, 720, 784; IV, 748, 796; V, 765, 804; VI, 755, 808; and VII, 761, 816. With changing \*\*\*optical\*\*\* ds. of the solns. owing to variations in the length of the light path or changes in the concn., the wavelength of stimulated emission varied within a range of 200-300 A. for any 1 dye. The coeff. of conversion was 10-30%. The high value of this coeff. under exptl. conditions indicated that it will be possible to develop powerful sources of coherent radiation in the near ir range by using polymethine dyes.

ST stimulated emission polymethine dyes; emission stimulated polymethine dyes; polymethine dyes stimulated emission; dyes polymethine stimulated emission

IT Dyes  
(methine, \*\*\*laser\*\*\* emission from dil. solns. of)

IT Fluorescence  
(of polymethine dye solns., \*\*\*laser\*\*\* emission in relation to)

IT \*\*\*Lasers\*\*\*  
(polymethine dye soln.)

IT 3071-70-3 4727-50-8 19208-25-4 20658-83-7 \*\*\*20658-84-8\*\*\*

20658-86-0 21127-26-4  
RL: PRP (Properties)  
( \*\*\*laser\*\*\* emission by dil. solns. of)

L12 ANSWER 111 OF 111 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1954:35354 CAPLUS  
DN 48:35354  
OREF 48:6295h-i,6296h-i,6297a-d  
ED Entered STN: 22 Apr 2001  
TI Photographic sensitizers of the trinuclear cyanine series. III  
AU van Dormael, A. E.; Nys, J.  
SO Bulletin des Societes Chimiques Belges (1953), 62, 199-204  
CODEN: BSCBAG; ISSN: 0037-9646  
DT Journal  
LA Unavailable  
CC 5 (Photography)  
GI For diagram(s), see printed CA Issue.  
AB cf. C.A. 47, 6285d; following abstr. A new series of trinuclear dimethinemerocyanines was prepd. by the reaction of a [2-methylthio-2-(4-antipyrinyl)-vinyl]cycloammonium salt with a rhodanine. [2-(3-Methyl-2,3-dihydrobenzothiazole)] [4-(1-phenyl-3-methyl-5-pyrazolone)]-.alpha.'-methylmercaptodimethinemerocyanine (I), m. 226-8.degree. (0.2 g.) and 0.3 g. p-MeC6H4SO3Me (II) heated 3 hrs. at 140-50.degree. and the mixt. cooled and washed with Et2O gave the metho-p-toluenesulfonate (III). III (2 g.), 2.25 g. 3-ethylrhodanine, and 1.8 cc. Et3N in 15 cc. dry pyridine refluxed 1 hr., and the mixt. cooled and poured into an equal vol. ice and acidified with HCl gave 36% [2-(3-methyl-2,3-dihydrobenzothiazole)]-[5-(N-ethylrhodanine)]-.alpha.'-[4-antipyrinyl]dimethinemerocyanine (IV), m. 259-60.degree. (from EtOH). IV (0.1 g.) and 0.05 g. Me2SO4 heated 1 hr. at 130-40.degree., and the mixt. cooled and washed with Et2O gave the methosulfate (V) of IV. IV (1 g.) and 9 g. II heated 10 min. at 130.degree., then 50 min. at 130.degree. with 0.8 g. 2-methyl-4,5-diphenylthiazole-EtI, dild. with 10 cc. dry pyridine, refluxed 15 min., dild. with Et2O, the resinous ppt. dissolved in the min. amt. EtOH, and the soln. poured into 10% aq. KI gave 1.2 g. VI, m. 286-7.degree.. To 1.2 g. V and 0.7 g. 2-(2-methyl-2-methoxyvinyl)benzothiazole-Me2SO4 in 15 cc. abs. EtOH was added at 0.degree. 1.2 cc. Et3N, and the mixt. let stand 5 min. at 0.degree., refluxed 5 min., filtered, and cooled to yield VII, m. 260-2.degree. (from EtOH). III (2 g.) and 2.1 g. 1-phenyl-3-methyl-5-pyrazolone gave by the method used for IV a dye (VIII), m. 208-10.degree.. Similarly, III (3 g.), 1.13 g. NCCH2CO2Et, and 1.4 cc. Et3N in 10 cc. pyridine refluxed 0.5 hr., the mixt. dild. with Et2O, the resinous ppt. extd. several times with C6H6, and the mixt. evapd. in vacuo gave a dye (IX), m. 140-2.degree. (from C6H6). The max. of absorption, log .epsilon., and the max. of sensitization are for: IV 547, 5.14, 605; VIII 498, 4.83, 540; IX 464, 4.82, 485; VI 613, 5.03, 645; and VII 657, 5.10, 700.

IT Brines  
(iodine manuf. from)  
IT Iodides  
(iodine manuf. from brines contg.)  
IT Spectra  
(of cyanine dyes (trinuclear))  
IT Photography  
Photography  
(sensitizers, trinuclear cyanine dyes)  
IT Dimethinemerocyanine, [2-(3-methyl-2,3-dihydrobenzothiazole)] [4-(1-phenyl-3-methyl-5-pyrazolone)]-.alpha.'-methylmercapto-  
Dimethinemerocyanine, [2-(3-methyl-2,3-dihydrobenzothiazole)] [5-(N-ethylrhodanine)]-.alpha.'-[4-antipyrinyl]-  
IT Benzothiazolium, 2-[3-[3-ethyl-5-(3-methyl-2-benzothiazolinylidene)-4-oxo-2-thiazolidinylidene]-2-methylpropenyl]-3-methyl-, salt  
Benzothiazolium, 2-[3-[3-ethyl-5-(3-methyl-2-benzothiazolinylidene)-4-oxo-2-thiazolidinylidene]propenyl]-3-methyl-, salt  
( \*\*\*optical\*\*\* properties of)  
IT 60-80-0, Antipyrine 504-78-9, Thiazolidine  
(dyes)  
IT 7553-56-2, Iodine  
(manuf. of, from brine)  
IT \*\*\*854069-35-5\*\*\*, Benzothiazolium, 2-[2-antipyrinyl-2-(methylthio)vinyl]-3-methyl-, p-toluenesulfonate 854069-37-7, Benzothiazolium, 2-[3-[5-[1-antipyrinyl-2-(3-methyl-2-benzothiazolinylidene)ethylidene]-3-

ethyl-4-oxo-2-thiazolidinylidene]-2-methoxypropenyl]-3-ethyl-, methyl sulfate 855466-46-5, .DELTA.2,.gamma.-Benzothiazolinecrotonic acid, .beta.-antipyrinyl-.alpha.-cyano-3-methyl-, ethyl ester 855881-93-5, Antipyrine, 4-[2-(3-methyl-2-benzothiazolinylidene)-1-(3-methyl-5-oxo-1-phenyl-2-pyrazolin-4-ylidene)ethyl]- 857964-43-3, Thiazolinium, 5-[1-antipyrinyl-2-(3-methyl-2-benzothiazolinylidene)ethylidene]-3-ethyl-2-(methylthio)-4-oxo-2-, methyl sulfate 857987-65-6, 2-Pyrazolin-5-one, 3-methyl-4-[2-(3-methyl-2-benzothiazolinylidene)-1-(methylthio)ethylidene]-1-phenyl- 859488-36-1, Thiazolium, 2-[[5-[1-antipyrinyl-2-(3-methyl-2-benzothiazolinylidene)ethylidene]-3-ethyl-4-oxo-2-thiazolidinylidene]methyl]-3-ethyl-4,5-diphenyl-, iodide 860505-83-5, Rhodanine, 5-[1-antipyrinyl-2-(3-methyl-2-benzothiazolinylidene)ethylidene]-3-ethyl- (prepn. of)

=> d his

(FILE 'HOME' ENTERED AT 15:33:14 ON 29 DEC 2005)

FILE 'REGISTRY' ENTERED AT 15:33:21 ON 29 DEC 2005

|    |                    |
|----|--------------------|
| L1 | STRUCTURE UPLOADED |
| L2 | STRUCTURE UPLOADED |
| L3 | STRUCTURE UPLOADED |
| L4 | 4645 S L1 SSS FULL |
| L5 | 819 S L2 SSS FULL  |
| L6 | 271 S L3 SSS FULL  |

FILE 'CAPLUS' ENTERED AT 15:34:29 ON 29 DEC 2005

|     |  |
|-----|--|
| L7  | 69 S L6  |
| L8  | 12 S (OPTICAL OR LASER OR INFORMATION) AND L7  |
| L9  | 11 S (PHOTOGRAPHIC) AND L7                     |
| L10 | 250 S (PHOTOGRAPHIC) AND L4                    |
| L11 | 112 S (OPTICAL OR LASER OR INFORMATION) AND L4 |
| L12 | 111 S L11 NOT L8                               |

=> log y

| COST IN U.S. DOLLARS                       | SINCE FILE ENTRY | TOTAL SESSION |
|--|------------------|---------------|
| FULL ESTIMATED COST                        | 417.15           | 900.92        |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION |
| CA SUBSCRIBER PRICE                        | -97.82           | -97.82        |

STN INTERNATIONAL LOGOFF AT 15:39:45 ON 29 DEC 2005